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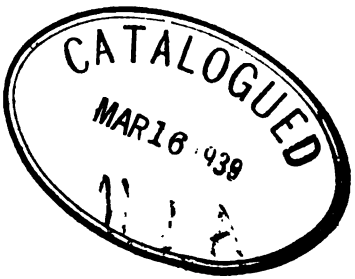
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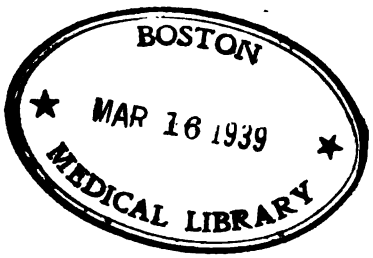
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J. D. EMMET, M.D.,
EDITOR AND PROPRIETOR

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THE
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JULY, 1900.

THE PERSONAL FACTOR IN THE WORK OF THE AMERICAN GYNÆCOLOGICAL SOCIETY.*

By Ely Van de Warker, M.D., Syracuse, N. Y.

A quarter of a century is the unit of measure in the evolution of a people. It is the life time of an idea. The seed thought is sown, it germinates, it reaches maturity and involves multitudes of other brains, and if it is one of those thoughts that is worthy of life, it becomes a part of the conscious being of all who think, and gains force and complexity as time moves on. The men who conceived the idea of this Society and had the diplomacy and energy to give their idea staple form and unity were, I believe, the product of the intellectual awakening that was taking form a quarter of a century ago and had proved itself worthy of survival. Previous to that time we were reading English books. The tradition of the formative period in American letters were brought down by a trinity of superb American poets. The American novelists—the men who were inspired by native types had not yet received recognition. We were without a drama indigenous to our people, but the stage was occupied by foreign play-wrights who introduced exotic characters.

In medicine and surgery we were slavishly subservient to foreign models of thought and methods. American publishing houses were laying the foundations of great fortunes by pirated reprints of foreign medical authors, while the young physician who hoped to reach the teaching rank was powerless to realize his ambition without foreign study.

* Read before the American Gynæcological Society at Washington, D. C., May 3, 1900.

American gynæcology was in the stage of dogma, and Hodge, Meigs, Bedford and Thomas laid down the law and the practice which none denied, and the only rays of light that gave promise of a clearer vision clustered like a halo about the head of Sims.

Then the young nation, just one hundred years in building, awakened to the throbs of conscious life and threw off the bonds of the intellectual inheritance from its many fatherlands and began to reach out with sure and certain grasp for new thoughts and new types of intellectual life, untrammelled by tradition or inheritance, the products of its own abundant life, its own culture, and the moral revolt against ideas which in the expanding national life it had outlived and outgrown.

One of the intellectual products of this uplifting was the American Gynæcological Society. It was a society of protest. It found gynæcology, both here and abroad, made up of irrelevant material, and its current literature a mass of aimless argument about trivial things. To prove the inutility of all that had gone before it needs but to be stated that in less than ten years from its foundation the old literature had ceased to be authority and the man of dogma had given place to the man of action. The theorist had disappeared and the scientific observer was crowding the pages of history with classified facts gained at the point of the scalpel. From its inception the Society became a great teaching body. It taught the physician and the surgeon how to shift his point of view, to make his methods expedient rather than methodic, to cast off the fetters of tradition and authority and how to assert his freedom and strike out in new channels of work and thought.

Nothing shows more clearly the wisdom of the men who worked out the problem of the Gynæcological Society from its inception than the selection of the small group of men who was to compose it. Each one was selected because he was in a certain measure an iconoclast. He had either done some work or had carried on some original research that was forceful and defiant of authority. The older fellows were, without exception, men who had acquired by the force of their personality and brilliant work a national repute and gave at once luster and renown to the young society. Thirty-nine original Fellows were enrolled, of whom twenty-eight attended the first meeting, which is a fair example of the devotion to the work of the Society. From that date began as strenuous a life as was ever lived by any scientific body. The early volumes of the Transactions bear witness to what a few earnest men can accomplish when they are devoted to the cause which banded them together.

There were papers in these early volumes that made history; papers

that threw light into obscure controversies that had burdened gynæcological literature in the past, and made the old academical disputes impossible in the future; others that gave orderly array to old facts and correct grouping to the new that makes to the building of a science, and others that opened the gateway to the pelvis and made possible the masterful Surgery that gave imperishable renown to American art. What we may call the formative period of gynæcology as we know it to-day, the period embraced in the first decade of the Societies' history, saw all of those great pelvic operations, that are made with such brilliancy by some and such avidity by others, placed upon a practical and legitimate footing. The great revival in science and methods and expediency that constitute gynæcology took form and order during this period. It would be presumption in me to say that this Society did all of this, but it is not too much to assert that without this society as an active factor in this formative period, this orderly marshalling of theory and methods with the certain demonstration of truth that gave the profession and the people confidence in daring innovations never would have taken the form it did.

Nothing went out as something new and out of the usual order of practical surgery that did not pass under the fire of fearless criticism. As a critical body it exerted its greatest moral force, that knew no compromise and had no reservations. No reputation, no position so high among its Fellows that would exempt one from the ordeal of question and dissent that were sure to follow the reading of a paper, or the expression of too radical an opinion in debate.

While it began as a Society of protest much of the force and vigor of its potential life hung upon this spirit of criticism. It began, and has continued the most exclusive Scientific body connected with the profession of medicine in this, or any other country. This exclusiveness in no way interfered with the absolute democracy that prevailed from the first year of its existence. No new Fellow was admitted who had not won his spurs in the literature of the science or who had failed to submit an inaugural thesis that was a material contribution to our science. If the candidate belonged to the teaching body and was the author of a compiled text book and his paper was academic, he failed of election, it mattered not who were his sponsors. On the contrary, he may have had no position in school or hospital, but if, by his previous work, he had demonstrated his ability as an original investigator and his thesis reached the high standard that was a tradition in the Council he was certain of election, no respect being shown to age or social position. Once the sacred mantel of fellowship had been thrown over his

shoulders he ranked with the distinguished professor or famous author. There was no caste but that of Fellow, no rank conferred by age or wealth, all were equal before the law, and that the law of strenuous work. Young men who were so admitted to fellowship have proved the wisdom of the unwritten code of the Society by reaching the highest distinction and reflecting enduring luster upon the Society and upon American Surgery. Under these critical conditions the growth of the Society was slow but sure—the growth of the mighty oak that slowly adds but one slender circle to its girth year by year and thereby makes the splendor of its shadow outlast the centuries.

It was for these reasons, and under these conditions that the Society has wrought its destiny of a quarter of a century under the potential sway of the personal factor. Its moral and intellectual force was that of its units, and its force as a great educating body was the sum of its individual factors. This society, like society at large, could not emancipate itself, had it so desired, from the sway of the born leaders of men, or the leaders of thought.

The progress of man to higher things, his evolution, his clearer vision in an ever widening perspective has always been due to a few men who were endowed with the divine gift of words, who could point out the way to the overruling verities, and rarest of all the capacity of ceaseless and high wrought work. We can all think and dream, but to how few has been given the god-like endowment of giving these thoughts the force of a blow, or of building up the baseless fabric of a dream into realities that all may know and see. This mixed sway of thought and work throws out influences that are boundless. Creations born of genius and art have ever cast a spell over the mind and hearts of men. These creations are not shadows, but real, substantial, ruling the dominion of the mind by the same agency that has placed the sceptre in the hands of those who rule—the subtile essence of the spirit.

This formative period of gynæcology, as implied in the history of the society, was under the influence of men who came as near to this definition of genius as we find in the medical profession. They had convictions, they had courage and the capacity of work. Their work may seem small to us when it is so easy to do now what would seem stupendous then, but we must never forget how simple it is to follow the path when some one goes before and points the way.

In tracing this personal factor into the work of the Society it is fitting that I should speak of those who have gone before. I could say as much of many, who, I rejoice to say, are sitting here before me, but we draw our lessons and find examples among those great spirits who have

crowned life by its final consummation, and who are none the less realities by casting off the limitations of earth and ruling unfettered over the boundless empire of the mind. To illustrate I shall confine myself to a few types. It is difficult to speak of this quality of mind in the abstract. It is better to illustrate it in the concrete form and study it as a part of the mental equipment of the men in whom it was conspicuous.

One of the personalities that stand out most vividly to me is that of Fordyce Barker. I know of no life that offers to young men a more inspiring example. His status in this society was unique. At the beginning of a period of most aggressive surgery and a Fellow in one of the most active surgical societies, he, not a surgeon and having but little sympathy, and but little faith in what was being done, appeared all the larger and all the brighter among the men who were making a heedless rush after novelty and fame. To the man who hopes to gain fame by doing something new, or by doing some old thing in a new way the career of Fordyce Barker must cause some serious thoughts. His fame is limited by the man who does his new thing in some other and newer way while the fame of a Barker grows broader and his position the surer as time goes on. It is the old story that it is not what a man does with his hands that gives him a personality all his own, but by that upon which he has put the sign and seal of his own potential thought.

Fordyce Barker was not a Napoleon in science, he was a strong, lovable man, a good lover and a good hater as is becoming in a strong man. The side of his character that became a personal factor in the work of this society was his consummate tact. All the older Fellows will remember that there were times when it needed the tactful hand, and nearly always it was the hand of Barker. I have seen him bring men his way whom I knew positively hated him. He had the rare gift of reconciliation. When he thought his way was the better way and meant the greatest good to the largest number, he gained his point by diplomacy if he could, but if not it was by sheer will, and then came the atonement. Few whom he antagonized could withstand the genial and cordial proffer of the hand. Friendship with Fordyce Barker was a sacred thing, and it was given with such a sense of truth and trust as to inspire all who were brought under its influence with a conviction of its sincerity. His was a many-sided character, but the strangest was the unique mixture of transparent simplicity and masterful tact. There was no concealment, seeming abandonment to trust in all about him, but those who tried to take advantage of this side of his character had cause to marvel at his quick insight into motive and his profound

knowledge of men. His influence in the Society was never exerted to enhance his personal gain, but always for the good of the Society which he loved. No man was more active in its work. We are living to-day under the influence of this man's example. If we examine into the list of his papers and remarks their variety and scope will at once enlist the attention. And this was the point at which the personal factor came in touch with the development of modern gynæcology. This great variety of topics was considered from the standpoint of the physician and not the surgeon. The two sides of this special science that are naturally inclined to move off at a tangent were kept in harmony and sympathy by the strong common sense and profound practical knowledge of the medical side of woman's disabilities possessed by Dr. Barker. His example was a strong one and induced many to write upon the medical, or non-surgical treatment of pelvic diseases, and papers of this type found a respectful audience.

We had in Robert Battey another Fellow who gave his full measure of the personal factor to his work in the society and to American Gynæcology. He was the direct antithesis of Barker, but none the less potent. None of the older Fellows will ever forget the quaint figure of the man. His character seemed to be made up of the priest, the layman and the doctor. He took life seriously, too serious for laughter and idle talks. His garb of priest was out of place in touch with those lighter pleasures that give to those who are doing the world's work a renewal of strength and energy in an idle hour. His life seemed tuned upon one key and kept there by alert and forceful effort, justified simply by his faith. No man ever joined us who had a more solemn conviction that he was right. It was the intensity of this faith in himself that made him a power in the propagation of theories that were then new and but few could endorse. It was the psychic force in the single idea, the spiritual dynamics that exists in bringing will, conviction and imagination to a single focus. It must have been some subtle qualities like this that could compel a large following that believed that woman's best friend was woman's worst enemy.

There were many Fellows who were more constant in their attendance and who contributed more to our Transactions, but no one demanded a more attentive hearing, and he was listened to with a respect that would be accorded to one who offered an equal novelty of theory. With Battey there was a man behind the idea, a man with verility and singleness of purpose, added to which was the fact that he was unravelling what was then one of the most obscure conditions in pelvic physiology, and what made him unique as a physiologist, he was doing

it by the point of his scalpel. He was not confronting his audience with theories, he was demonstrating conditions. He was a vivisectionist and proving his contentions by the same method that physiologists employ upon the rabbit and the guinea pig. This he was doing at the time of the most intense surgical revival the world has even known and thus compelled a degree of attention that may seem unaccountable to the young man of to-day. He was a pioneer and suffered all the penalties of those who stand upon the frontier in the onward march of ideas. Nothing was ever said that could induce him to abate his rights of priority, or convince him that he was wrong.

That pugilist in surgery, Tait, found a foeman worthy of his love of battle in Robert Battey, and on one on this side of the Atlantic was his equal in silencing his irrepressible foe. It was a battle of the gods, and Battey won, and I believe we must accord to him the doubtful honor of showing the way and the logic of ovarian extirpation that caught in its fascinations thousands of men, most of whom have lived to regret. But the license that followed the Battey idea ought not to be charged to him. It is one of the inherent dangers of action by its effect upon correlated thought. The Battey idea was lost in the number of those who believed they were forcing the theory to its logical conclusion and who thought they had found in tubal and ovarian disease solution to the problem of the pelvic disabilities of women. Robert Battey was a virile type, that gynæcology, as we know it to-day, will never reproduce.

As I have briefly told the story of the men who have shaped the direction of American Gynæcology we observe how varied are the mental endowments of the men. The subtile, spiritual essence by which one man sways the thoughts and convictions of others is one of the most complex of mental endowments, and its effects are as varied as are the temperamental differences of those upon whom it reacts. In the few types that I have offered of the personal factor that has marked our work we see the student of human nature, the great master of tact. The man with the dominating force of the one idea, another shaping the course of science by the force of his own courage and enthusiasm, and lastly the man who rules over the boundless dominion of the heart by his kindness, his loyalty to truth and his faith in the loyalty of others, chivalrous, gentle, generous, and that was Henry P. C. Wilson.

The meed of praise that will follow his memory will be more lasting than that which will be measured out to the writers of many books or the inventors of many operations. There are many ways to fame. Wilson's was the way which left the traces of his memory strewn with flowers, a memory so sweet and clean and good that his death was the

fulfillment and final consummation of a life untarnished by one unmanly or ungenerous act. The spirit infused into this society by Wilson will live after him. He set the mark of liberality of opinion, of respect for the conviction and theories of others, of gentleness and forbearance in debate, that, let us hope, will ever be a tradition among us. With all this he was a man of his own convictions. He was a deep thinker and a good dialectician. He never hesitated to object or dissent, but who could do it with so little sting, who could concede so much and yield nothing of his opinion, or differ and be so generous in his praise. There was no Fellow of this Society whose personality was more evident or deeply felt. He diffused an atmosphere of good feeling, of harmony and unity about him that was all his own, and it will be well for us, if while we cherish his memory, we make the example of his life the ever continuing standard of Fellowship in the society he loved so well.

I have selected him as one of my types for some rare attributes of character. One would little suspect in meeting Wilson that he was a bold and original surgeon. There is no doubt that in the development of the surgical side of a man's work he gives up something of gentleness and geniality. After he forms the surgical habit, if I may so call it, he has to be too insistent, firm and positive to make the milder graces, diffidence and gentle concessions, a shining trait in his character.

I would hardly complete my subject if I were to omit the name of Sims, not that I need his illustrious example, but rather to show the mental equipment which gave him such singular aptitude for his work. Sims was a great literary artist. The literary instinct was innate and spontaneous. Other men had closed fistulæ before Sims, and those efforts were regarded as surgical curiosities. It remained for Sims to focus the attention of the world upon himself by his marvelous paper in *Hay's Journal.* It is pure literature and worthy to take rank with any work of the classical writers of English prose. So far as I have seen it is the only instance of literature, as such, in the vast mass of medical writing in this country. The style of that article was of its kind faultless. The simplicity, the graphic force with which the story was told and the dramatic unity in its development claimed was of its kind faultless. The simplicity, the graphic force with which the story was told and the dramatic unity in its development claimed the attention and compelled belief. That article ought to be reprinted in our gynæcological journals as a model of good medical English, and especially for those who believe it necessary for scientific accuracy to load their papers down with a great array of cases with an endless pro-

lixity of detail, forgetting that one case, provided the author can select a type case, is better than twenty, and strangely overlooking the fact that there is nothing in all this array to convince the reader, who generously takes it upon trust.

Sims came to the Gynæcological Society like an inheritance, and we claimed but never absorbed him. He stood out alone like a prophet in the wilderness telling strange things. Everything about him was convincing, both in word and manner and, so long as he kept in close touch, his influence never waned. He was like all men of his temperament, over-sensitive. He wore his heart upon his sleeve and his emotions were ever swaying his judgment.

In his book where he tells of the value of cotton in surgery, and says it can no longer be used because of its price, the result of a cruel and unjust war, we catch a delightful glimpse of the man, and also have an instance of how his convictions right or wrong obtruded into whatever he might do. But all this was essential to the development of the rare personality of Sims. Had he been deliberate, calculating, cold-hearted and scheming he never would have achieved either his fame or his results. What man among us would leave a little town like Montgomery and without money or friends would rush into the thick of the battle of a great city simply as the apostle of a new idea, and yet, that was the only consistent thing Sims with his temperament could do. He would have died in Montgomery of a broken heart had he remained there after he had demonstrated his idea and opened a new world for surgical exploit.

I have sought to show how the young society was welded together and made harmonious by divergent examples of the personal factor. Differences of opinion, variety in the point of view, and the ever changing logical perspective mean health and progress in scientific thought. A fact is a many-sided thing and is wrought out between the hammer and the anvil in the conflict of ideas, and we do not know it, until it rises above the confusion of battle and takes its place clear and star-like in the firmament of knowledge and becomes radiant forever. It has been decreed that in the battle of ideas that some men are to be hammers and others are to be anvils, whereby the truth is forged out and the complex fabric of knowledge made stronger and human progress and endeavor made lasting and secure. The victory is not always to the one who strikes the blow. The anvil may proclaim, clear and resonant, and the fabric wrought between them is refined and perfected thought.

INTRA-ABDOMINAL AMPUTATION OF THE UTERUS: A MODIFICATION OF HYSTERECTOMY.*

By F. H. Davenport, M.D., Boston.

The indications for hysterectomy are now pretty well established, the mortality has been reduced to such limits that it may now rank with other abdominal operations as a practically *safe* procedure, and interest has now centered upon the technique. I desire to call your attention to a modification of so-called abdominal hysterectomy which I have practiced for about two years.



Fig. 1. Freeing of uterine body by division of broad ligaments.

My position with regard to the relative advantages of abdominal and vaginal hysterectomy is this. Where it is possible in a young married woman to leave the cervix I prefer to do so; hence for suitable cases I choose the abdominal route. I operate by the vagina, of course, for cancer either of the cervix or body. In other cases, I am governed by the conditions present. If a patient single, or near or past the menopause,

* Read before the American Gynæcological Society, Washington, D. C., May 1, 1900.

with a small or medium-sized fibroid which is non-adherent, objects to the scar of the abdominal operation, I operate by the vagina, especially as I expect less shock and a quicker and more comfortable convalescence in the latter case. On the other hand, in a younger married woman, even though the tumor is small and can be easily removed by the vagina, I choose the abdominal route. It is of a good deal of importance that the vagina be preserved so that it may be functionally serviceable. A short-



Fig. 2. Separation of uterine body from lower segment and introduction of suture.

ened vagina, with a contracted vault is not a desirable condition of affairs under these circumstances. There is no danger of the abdominal scar being stretched by pregnancy, and hernia, while a possibility, is in these days of careful suturing a remote one.

Again, when the uterus is to be removed for chronic inflammation, or its results, there is usually concomitant disease of the appendages, and the abdominal route gives full opportunity for seeing the exact condition of all the pelvic organs, and for doing what is necessary under control of the eye. Therefore, as I have said at the beginning, the indications for hysterectomy, and in my own case, for abdominal hysterectomy, are very clearly established.

In studying the technique of so-called abdominal hysterectomy, it has seemed to me that the operation might be simplified. I have felt that there were a large number of cases where the body of the uterus only need be removed, leaving the whole cervix, and perhaps the lowest segment of the uterine body. Where the uterus is the seat of chronic inflammation, which keeps up a salpingitis, and perhaps a peritonitis, it

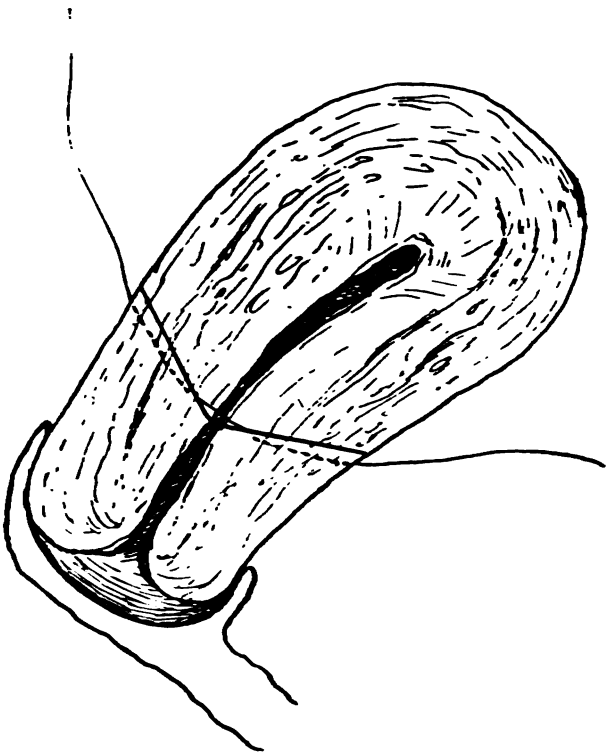


Fig. 3. Method of passing sutures.

is only necessary to obliterate the uterine canal and remove the inflamed tubes to effect a cure. The lower part of the uterus and cervix will drain freely into the vagina, and will very soon atrophy. A small interstitial fibroid may be situated so that only the upper part of the body will be involved, but where myomectomy alone would be inadvisable. For such cases, the modified operation is clearly applicable. If the abdomen is opened for disease of the appendages, and on inspection the uterus seems to be involved so that the removal of the upper portion

would be wise, it can be done quickly and without adding to the risk of the patient.

The essential feature in which my method differs from the operation as usually done, is that the uterine arteries are not ligated, or indeed, disturbed. By whatever method these are tied, whether by dissecting between the layers of the broad ligament, and isolating and tying the artery, or ligating it by including the whole thickness of the broad ligament near the uterus, it is a more or less difficult procedure. By the first method, it involves some opening up of the sub-peritonæal space, thereby increasing the chance of septic infection, and it is certainly good surgery to limit this as much as possible.

My own method is as follows. The broad ligament of each side is seized by a long clamp running from the free space between the ovary and tube, and the pelvic wall, and ending close to the uterine wall at a point a little above the level of the internal os. A second clamp is carried down each side parallel to the uterine wall and inside the ovary. The points of these clamps lie nearly in apposition. The broad ligament is then divided parallel to the first clamp. (Fig. 1.) The clamps being firmly applied there is no bleeding. A needle armed with a ligature of fine silk is then passed through the angle of the broad ligament between the ends of the clamps and securely fastened. With a scalpel the uterine tissues are then divided at a level with this suture in such a way that the anterior and posterior incisions slope downwards and meet in the centre. This is done from one side of the uterus to the other, a little at a time, and the bleeding which is usually slight is controlled by the continuous suture which follows the incision. (Fig. 2.) The needle with the silk which has been tied at the angle, is introduced into the anterior surface of the uterus just below the free edge, carried through the tissues and brought out at the angle of the wound, reintroduced into the posterior wall and then emerges on the posterior surface of the uterus at a point corresponding to its entrance. (Fig. 3.) This is drawn tightly, and when enough free space has been gained by the use of the knife, another suture is taken. This is continued until the body of the uterus is completely separated and the other side is reached, when a final stitch is securely tied at the angle of the broad ligament between the clamps. By this method there is practically no bleeding. It is not necessary to strip the peritonæum off the uterus, and the wedge-shaped removal of the uterine body permits the ready and close apposition of the edges of the peritonæum. Any little bleeding points along the line of suture may be secured by separate sutures later. When the clamps which control the outer segment of the broad ligament are removed,

the ovarian artery may be seized and tied. There is usually no bleeding from the rest of the broad ligament, but any suspicious points can be easily tied.

It is surprising how often this operation can be substituted for the more complete one where the uterine arteries are tied, and it has distinct advantages. It takes a shorter time to perform; there is usually less loss of blood; and it does not open the layers of the broad ligament. The convalescence is usually very free from disturbance. I have done it a great many times, and have every reason to be satisfied with my results.

THE RELATIONSHIP BETWEEN DYSMENORRHŒA AND APPENDICITIS.*

By Archibald MacLaren, M.D., St. Paul, Minn.

We are all only too familiar with the following history: A young girl commencing to menstruate at the ordinary age and flows normally for a few years, she then takes cold, has perhaps some obscure inflammatory symptoms, and thereupon commences to menstruate with pain. The pain frequently increases in severity, and the unfortunate young woman develops a neurotic temperament, apparently as a secondary sequel to her dysmenorrhœa.

It will be claimed by my friend, the neurologist, that I have "put the cart before the horse," that the development of a nervous exhaustion, combined with some slight exposure, has caused her to suffer from menstrual pain, just as she has headaches, or backaches, from the same cause. I must say that I believe that the neurologist is correct in perhaps the majority of cases, and that the condition of the nervous system is largely responsible for many of the cases of dysmenorrhœa. But it is not my purpose to tire you with a discussion of the various theories regarding the pathology and causation of dysmenorrhœa.

We are all familiar with the unsatisfactory results which so frequently follow the ordinary surgical treatment for the so-called cases of obstructive dysmenorrhœa. I am sure that my own experience with divulsion and curetting with or without the division of the internal os and with Dudley's operation on the cervix has been the experience

* Read at the meeting of the American Gynæcological Society, Washington, D. C., May 2, 1900.

of many other surgeons, *i. e.*, that a few of our patients will be cured, others will be relieved, but that a large majority will receive little or no benefit, unless our surgery be combined with a prolonged course of treatment for the nervous exhaustion, and even then many cases will prove failures.

We have all seen cases with the most intense menstrual suffering, in young women who showed no other symptom of neurasthenia, who had no pain at all when away from home. Some will have no pain at the seashore, or on a sea voyage, and others when in the mountains.

But leaving such cases out of consideration, let us turn for a moment to consider what is the influence of pelvic inflammatory changes on menstruation.

We all know that inflammatory diseases of the ovaries and Fallopian tubes and adhesive displacements of the uterus are at times the causes of dysmenorrhœa; all authorities are, I believe, agreed on this point. It is difficult in this connection to explain why all cases of inflammation of the uterus and appendages do not suffer from painful menstruation, while our every-day experience proves that dysmenorrhœa in this class of cases is rather the exception than the rule. Now, going one step further, we all recognize the fact that appendicitis in women at times causes inflammation of the appendages.

As Kelly says in his "Operative Gynæcology," in speaking of appendicial adhesions, "The cases in which the vermiform appendix is most likely to be involved, are those in which its free end hangs down over the pelvic brim close to, or in contact with, an inflamed right tube. An inflammatory affection of the tube will in this way easily involve the appendix, and an appendix will, on the other hand, infect the tube, so that the appendicitis may be either primary or secondary, and the same may be said of the salpingitis."

My own experience coincides with Dr. Kelly's, and besides the secondary salpingitis, of which he speaks, I have seen several cases of inflammatory cystic ovaritis, and also ovarian abscess, caused undoubtedly by appendicitis.

Kelly further says that in the series of 100 hysterosalpingo-oöphorectomies, the vermiform appendix was adherent in 27 cases, and in 7 cases required removal on account of the extensive disease in this structure.

Hunter Robb, in the *Johns Hopkins Bulletin* of 1892, speaks of having noticed the fact that purulent salpingitis is at times produced by purulent appendicitis. Many other surgeons have noticed this same fact in the same connection. There is no question in my mind that the

cause of some of our unsatisfactory results following the removal of inflammatory appendages arises from the fact that we have overlooked adherent quiescent or perhaps a chronically inflamed appendix. Twice during the last winter I have operated upon just such cases, which had suffered from pelvic pain and distress for the past two or three years, and in both of which I found chronic appendicitis which had evidently been overlooked at the time of the removal of suppurative appendages.

Frank T. Merriwether, in the *Annals of Gyn. and Ped.*, reports a study of 61 cases of appendicitis, 30 of which were operated upon. Sixteen of these cases occurred in women, four of which had suffered from dysmenorrhœa. Three had several attacks of appendicitis which occurred at the menstrual period. In three adhesions were found between the appendix and the right appendage, and two had been treated for ovarian disease.

My own experience in the last two years, during which time 200 laparotomies have been performed, is that out of fifty-eight cases where inflammatory appendages have had to be removed, the appendix has shown enough evidence of disease to justify removal in twenty cases. In nine of these cases the adhesions between the appendix and the right appendage have been very intimate, and the conclusion drawn from the histories of most of these cases was that the trouble had originated in the appendix and spread from there to the ovary and tube. During this same time I have operated upon seventeen cases of appendicitis in which there was no evidence of an extension of the inflammatory process to the appendages.

During the past two years I have also operated upon twenty-nine large pelvic abscesses in which the amount of pus has averaged about one pint. In these cases I have simply opened and drained the abscess cavity, whether ovarian, tubo-ovarian, intraperitonæal, or cellular, with a rubber tube without attempting to remove the sac. In this class of cases it has not been possible to know what influence the appendix had in producing the pelvic suppuration. I have no doubt that a certain number of them were due to perforative appendicitis, but as they have practically all recovered, and as almost all of them are now free from pelvic or abdominal distress, I do not care whether the appendix was the original cause or not. For I believe, with Dr. Richardson, that it is not always necessary or wise to attempt to remove every appendix, and I believe that this is especially true in these large pelvic abscesses, which can be safely drained through the vagina. Then at a later date, if the appendix or the appendages give trouble, they can

safely be removed during an interval when the danger, according to my experience, is lessened from 25 per cent. to 2 per cent.

Aside from these well recognized cases of appendicitis, there is, in my opinion, one other form, which shows itself in appendicial colic, which recurs with each menstrual period, caused no doubt by the pelvic congestion which always accompanies each menstruation. In such a case the obscure inflammatory attacks, of which I have already spoken as a "taking cold," was probably a mild attack of appendicitis, and the succeeding menstrual pain, which is principally confined to the right side, is, perhaps, not a true attack of appendicitis, but, as I have said, more like an appendicial colic. If my explanation of these attacks is correct, the only way in which they can be relieved would be by the removal of the appendix. And it has occurred to me that this may be the explanation of our failure to relieve some few cases of dysmenorrhœa by our ordinary lines of treatment. That such cases do occur is proven, I think, by the following cases:

Case I.—Miss H., referred to me by Dr. C. E. Riggs of St. Paul. She was 20 years of age; first commenced to menstruate at the age of 15; she had no menstrual pain until two years ago. When 18 years of age she had an obscure inflammatory attack, and from that time to the present she has suffered from intense and increasing dysmenorrhœa.

Examination showed that she was neurotic and in poor physical condition. She had a small retroflexed, non-adherent uterus and she was markedly tender to pressure over MacBurney's point. A laparotomy was performed and a chronically inflamed strictured and adherent appendix was found and removed. The uterus was suspended by two silk sutures, there was no disease of, nor adhesions to, the right appendage. Her convalescence was uninterrupted and the wound union was perfect, and at the end of three months, under Dr. Riggs' care, she had gained fifteen pounds in weight, looked plump and rosy and had menstruated three times without any pain whatever, coming unwell without any premonitory symptoms whatever.

Case II.—Miss I., a case of Dr. MacEwan's of Alexandria, Minn.; 30 years of age. Three years ago this patient suffered from an inflammatory attack of the bowels, and ever since that time has had "terrible" dysmenorrhœa. Latterly the pain, which was more in the right side, has continued all through the month, until now she is almost a confirmed invalid, and can do practically no work at all. In this case a laparotomy demonstrated a chronic appendicitis with adhesions all over the appendix and uniting it to an enlarged, adherent, cystic ovary. The ovary was the size of a hen's egg, and contained

a dark, bloody fluid. The appendix was stricture at its neck, and contained five hard enteroliths. The patient recovered with a perfect wound and menstruated once without pain before she left the hospital. I have not heard from her since she reached home.

Case III.—Miss G., a patient of Dr. Whittemore's of Elk River, Minn.; 22 years of age. Three years ago she first commenced having pain at her menstrual period; now she has pelvic pain all of the time, and her dysmenorrhœa is very severe indeed and necessitates considerable morphine at each period. Laparotomy showed that she had a chronic appendicitis, with a single thick adhesion extending from the base of the appendix down to a cystic right ovary.

Appendicectomy with resection of the right ovary, combined with divulsion, curettage, and division of the internal os with a history. Her convalescence was normal, with a perfect wound union, and her next menstruation was almost without pain. Three other similar cases have been operated upon; one, apparently a favorable case, has been a complete failure, so far as the relief from the pain was concerned; the other two with satisfactory primary results, but further time will be necessary in all of these cases to demonstrate the ultimate value of this line of treatment.

Case IV. was a young unmarried woman who was a patient of Dr. Borden of the U. S. A., and was operated upon by Dr. Borden at Fort Snelling some two years ago. This patient had menstruated normally for several years. She then had an attack of appendicitis, and soon thereafter commenced to have very intense right-side dysmenorrhœa. Appendicectomy relieved her at once, and she had no menstrual pain at all for the next year, at least, during which time she was under observation.

Fleiss, in the *Centralblat für Gynäk.*, 1897, calls attention to a somewhat similar condition, which he has seen in the nasal mucous membrane. With each menstrual period with some young women, he had found a congested, swollen, sensitive condition of the mucous membranes, which he describes as genital spots. He says that he has frequently been able to relieve dysmenorrhœa in these cases by cocainization of these sensitive spots, which he has usually found on the tubercula septi.

Now but a word further in regard to the technique of appendicectomy: In my early operations I ligated the stump close to the bowel and then cauterized the cut end of the appendix. Later I adopted Kelly's method and dissected off a cuff of peritonæum, which I turned over the divided end of the appendix with one or two catgut stitches.

In the last sixty appendicectomies I have used Dawburn's method, using a dry sterilized catgut purse-string suture, which is tightened after invaginating the little tag of a stump, which is left after cutting off the appendix close to the bowel.

This method is the most satisfactory one to me of any that I have ever seen used. It is quick, clean, needs no cauterization, and can be applied to the thickened, inflamed organ as well as the more normal one, if only the appendix be cut off close enough to the bowel. The only objection which I have seen urged to this method is that one might tuck the stump back in between the coats of the cæcum. I have never found any such difficulty, and, even if it were done, that is practically what we always do in the Kelly method.

I have never tried Edebohl's very ingenious scheme of invaginating the entire undivided appendix but once. In this case I found no trouble after I had closely trimmed off all of the divided mesentery, in accomplishing this feat. I was very much pleased with the result, it certainly looked beautiful, but the trouble was that my patient immediately developed an acute attack of appendicitis, or perhaps better a septic lymphangitis of the cæcum. Within thirty-six hours after the operation she developed the following train of symptoms: a temperature ranging between 101 and 102, which continued for four days; she had local pain and tenderness, with a thick, pasty tongue, and disturbances of the stomach, which I have seen at times in ulcer of the mucous membrane of the appendix or cæcum.

My explanation of this result was that the circulation of the appendix, having been entirely cut off with the division of the mesentery, the appendix itself necessarily sloughed and my patient had a certain amount of mild septic absorption.

I was not uneasy about her at any time and she entirely recovered with a perfect wound union, but I think in the future that I shall prefer to cut off the appendix; for I have never seen any bad effects from the exposure of the intestinal mucous membrane which occurs when the appendix is divided and inverted.

In conclusion I would say that I do not believe that this combination of appendicitis and dysmenorrhœa is a common one, but that it does occasionally occur. And further, that in a patient where it is necessary to prescribe morphine regularly for the menstrual pain, and one in which local and general treatment will not relieve, and especially in one which has already been operated upon without relief, that an exploratory abdominal section done with every precaution, including the use of rubber gloves, is entirely justifiable.

Lowery Building.

THE EXAMINATION OF THE SIGMOID COLON.*

By Dr. A. W. Abbott, Minneapolis, Minn.

In 1887 Otis, in his monograph upon the rectum, described the using of "suitable retractors" in the lower bowel, stating that he was enabled thereby to inspect its lumen for five and one-half inches. Several years before this Van Buren had advocated the use of the Sims speculum for the same purpose. In 1892 Dr. Howard Kelly devised his cylindrical sigmoidoscope, which was a decided advance, in that it permitted the inspection of a part of the sigmoid. The Sims speculum is now justly recognized as affording the most comprehensive view of the lower two-thirds of the rectum of any instrument yet devised. Dr. E. C. Dudley has especially endorsed its advantages.

My purpose in this paper is to describe a method whereby not only the rectum but from four to six inches of the sigmoid colon is generously exposed to inspection for all diagnostic purposes and made a satisfactory field for treatment and operation in suitable cases.

Recently we are coming to recognize that many of our failures to cure pelvic diseases are due to our overlooking some important abnormal conditions in the bowel.

The chief reasons for this neglect are that the bowel must be previously cleansed, there is ordinarily more or less pain unless an anæsthetic is used, but especially because the instruments hitherto available have been inadequate.

Following the later anatomists, the rectum and anal canal will be considered as that part of the bowel beginning at the anus and extending to opposite the body of the third sacral vertebra, nearly straight, immovable posteriorly, and but slightly extensible, thus having a pretty constant length of about six inches; the sigmoid colon as extending from the upper limit of the rectum to opposite the crest of the ilium, having at least two marked curvatures, being extremely mobile and distinctly extensible. The total length, therefore, from the anus to the lower end of the descending colon may vary from eighteen to twenty-eight inches.

In examining the sigmoid it is essential to remember the downward curve just above the recto-sigmoidal junction and the return curve as the sigmoid passes upward to the descending colon, and that these

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curves and others in certain subjects, as well as the great mobility of the sigmoid, are due to the long meso-sigmoid. Whether the loops fall to the right or the left and what particular shapes they assume, make no essential difference and need not be considered, as will be seen later. It is essential that we realize that we cannot pass with a straight instrument much beyond the lower curve. This is explained not only by the difficulty of passing a straight instrument around a curve, but also because the long meso-sigmoid and the extensibility of the bowel allow us to push the point of the instrument into close proximity of the lower border of the ninth costal cartilage without passing more than six inches into the sigmoid, and there is no way in which we can draw more of the bowel over the end of the instrument. The distance in a direct line from the anus to the costal cartilage opposite the end of the ninth rib, as measured by callipers, averages about twelve inches or a little less in adults. I was surprised to find the measurement very constant in males as well as females, and in tall as well as short persons. Relative to their height the distance will average a little greater in the female than in the male. In a child of 6 years the distance is about eight inches. In a child of 10 years, about nine inches. This fact should always be borne in mind in examining the bowel in children.

As the anus lies in a line a little posterior to the sacro-iliac junction, a straight line drawn from the anus over the left psoas muscle and continued forward, will touch the anterior abdominal wall about opposite the end of the ninth rib. But the anus can be stretched somewhat toward the pubis, so that when a straight instrument is passed up the bowel on the pubic side, it will not touch the anterior abdominal wall quite so soon as when laid on the coccygeal side.

Both the left lateral and the knee-chest positions, while necessary for the inflation of the bowel, tend in some degree to carry the point of the instrument still farther forward by bending the body backward. As the meso-sigmoid is said to vary somewhat in length it might be inferred that the sigmoid could be carried higher in some subjects than in others. I have never, however, observed a sufficient variation to appreciably affect the result in experiment or practice.

Theoretically, then, a straight instrument cannot be passed more than twelve inches up the bowel in the adult. The following experiments on the cadaver demonstrate the truth of this theory.

Experiment I.—Cadaver adult male. Straight retractor passed nine inches up the bowel; the point of instrument felt to right and an inch above umbilicus. Retractor left in situ and body opened. Point of re-

tractor found pushing up sigmoid at first curve. This experiment repeated several times with same result.

Experiment II.—Cadaver adult male. Straight retractor introduced nine inches. A half curved needle then passed with suture into wall of gut near the upper end of retractor and the suture tied. Body opened and suture found in same position as point of retractor in Experiment 1. This experiment repeated with same result.

Experiment III.—Cadaver adult female. Straight 12-inch retractor passed eight inches. The lumen of the bowel could now be seen folded together, but the instrument could not be made to enter. The point of the instrument was felt opposite and to the right of the umbilicus and impinging on he anterior abdominal wall. The diagnosis was made that there were adhesions restraining the upward movement of the sigmoid. The body was opened by Prof. C. A. Erdman and Dr. Campbell. The retractor was held in place while the body was turned upon the back and the abdomen opened. The sigmoid was found pushed up under the omentum. The omentum was now drawn aside out of the way. The point of the instrument was found stretching the sigmoid, having passed two and one-half inches up that part of the bowel. Even with the abdomen open and the fingers directly holding the bowel, Dr. Erdman could not work it over the point of the retractor. The reason was very evident. The sigmoid just at this point was attached to the right ovary by a firm band. This was cut and the instrument easily passed two inches farther, but was again arrested by a strong sigmoidal adhesion upon the left side of the pelvis. This was broken and then the instrument passed easily until the point reached the level of the ninth rib, overriding the transverse colon, stomach and part of left lobe of the liver, when it was again arrested by the now fully stretched meso-sigmoid. There was still left of the sigmoid which had not been entered by the retractor, about eight inches. The omentum was now replaced and the retractor passed up the bowel and under the omentum as occurred before the body was opened. The point of the instrument pushed up the transverse colon, dimpled the stomach, the point being felt behind the left lobe of the liver. This experiment positively and clearly demonstrates that the advance of a straight instrument in the sigmoid is arrested by the tension of that part of the meso-sigmoid which pertains to the sigmoid in the vicinity of the first curve. Consequently, the longer the meso-sigmoid, the farther the instrument can be introduced, and that a short meso-sigmoid or adhesions act, on the contrary, to limit the distance to which such an instrument can be inserted.

Experiment IV.—Thinking that possibly the rigidity of death might have influenced the previous experiments unfavorably, I selected a case in the living subject, in which I wished for other reasons to make an abdominal opening. The case, being non-inflammatory and hence free from adhesions, was considered a fair one for experiment. Under anæsthesia, the patient in the knee-chest position, a long Kelly's sigmoidoscope (fourteen inches) was passed eight inches. Not succeeding, after some effort, in going higher with this instrument, I introduced under the eye a straight retractor, after which the Kelly sigmoidoscope passed readily to ten inches. The point was felt a little to the left of the median line and about an inch below the ninth rib. The obdurator was now withdrawn and a long wire sponge-holder with the end well protected with gauze was passed to the end of the cylinder. This was held exactly in place by an assistant during the whole experiment. The cylinder was withdrawn over the wire, leaving it in place. The patient was turned on her back and the abdominal opening made. The upper part of the rectum was found slightly and the sigmoid markedly stretched upward and the meso-sigmoid tense. The rod was felt passing over the left psoas muscle and thence upward nearly to the ninth rib, the point pressing against the anterior abdominal wall. The bowel was now seized and held by the fingers at the point to which the sponge-holder reached, the sponge-holder withdrawn and the bowel allowed to resume its usual position. It was evident that the instrument had not passed more than four inches into the sigmoid. This experiment was verified by Drs. Erdman, Byrnes and Davis, of Minneapolis. An instrument more than twelve inches long will stretch the mesosigmoid to its fullest extent and carry the sigmoid against or upon the stomach or transverse colon. To make the instrument longer than twelve inches is therefore useless. It also follows that under the most favorable circumstances we may not expect to be able to see by means of any speculum yet devised more than the full length of the rectum and, at the very most, six inches of the sigmoid. If the sigmoid, in being pushed upward, glides under the omentum, it will be arrested sooner than if it pass over it. In all the examinations I have made, except in Experiment 3, either the omentum was pushed upward or the sigmoid passed over it, as seen after the body was opened. It may seem that I have attached too much importance to a very simple proposition, but my excuse is that I thought I could examine a part of the descending colon before I began my investigations, and some of our latest and best text-books state that the colon as well as sigmoid may be seen through a speculum. A very late article by an excellent

surgeon states that he uses a Kelly tube to explore as high as the middle of the descending colon. I wish to give Dr. E. C. Weston of Minneapolis the credit of suggesting the reason of my error at the time of my first experiment. While demonstrating that we cannot make as high an inspection of the bowel as some have supposed, I wish to doubly emphasize the importance and advantages of obtaining a perfect view of that portion that we can inspect.

My method is as follows: The patient is given a cathartic two nights preceding the examination, and on the following night a high enema. This leaves the bowel clean and dry for examination the following morning.

The results are much more satisfactory with an anæsthetic, but this is frequently unnecessary.

The patient is placed on a table in the left lateral position, the hips being elevated about six inches on a sand-bag. If a table can be utilized that will lower, the head and elevate the buttocks as much more, it will be an advantage. The knee-chest position is also very satisfactory. A good electric forehead lamp with darkened room makes the best condition. An ordinary short Sims speculum introduced on the coccygeal side will now display the inner surface of the rectum, so that the so-called valves can be seen with perfect distinctness. A straight retractor eight to twelve inches long is now passed on the pubic side, and just after the point has passed the valves and under the guidance of the eye, the point is carried slightly to the patient's right, and then to the left and forward, when under normal conditions the instrument will glide easily to its full length and the whole lumen of the bowel is brought in view. Any force used in pushing forward the instrument in the bowel is not only unnecessary but dangerous. The instruments can be shifted, so that any part of the surface can be seen. Dilatation of the sphincter ani, of course, aids materially in the admission of light, besides giving more room for manipulation. In the male the introduction of a long instrument is not quite so easy and the distension and consequently the view of the bowel not quite as satisfactory. The great advantage will at once be apparent that one does not see simply a small area of the bowel wall at the bottom of a long cylinder, but that a comprehensive view of its whole length and lateral surfaces is obtained, normal and abnormal tissues being at one glance made subject to comparison. That this is not an overdrawn description will at once be apparent when I state that I have repeatedly on the cadaver, male as well as female, introduced a suture with a common curved needle and tied it eight inches from the anus. This was done

with an extra long needle-holder and the knots tightened with long uterine dressing forceps. This could not have been done unless the part was in full view and room enough provided for manipulation.

I wish here to call your attention to the danger of attempting a suture from any portion of the inner surface of the sigmoid. Although this can be done with ease eight inches from the anus, it is difficult to avoid carrying the needle through the bowel wall. It has happened to me twice, upon the cadaver, to sew two loops of bowel together, although I used the greatest of care. The procedure is safe in the rectum.

One great advantage of this method is that we do not have to grope our way blindly by the sense of touch alone, but the instruments are introduced under the guidance of the eye. If an obstruction is met, it is seen and the point directed by it. If there be a stricture or malignant disease, the field can be inspected, and the amount of diminution of caliber can be made out as one proceeds without any danger of undue force. The instruments are more easily introduced than cylindrical specula, because there being no obturator, the air precedes the point and balloons the bowel in advance.

It is often of advantage to introduce two of the long retractors instead of a short and long one.

It is needless to dwell upon the advantage of being able to examine ten inches of the lower bowel with almost the same facility that one inspects the vagina with a Sims speculum.

The location of fistulæ, the depth and caliber of strictures, the extent of malignant disease, the removal of polypi and the treatment of ulcers become simple procedures.

The confirmation of a diagnosis of intussusception in children and sigmoid volvulus may be possible. In one case of doubtful character in an adult, after heroic but futile efforts had been made to move the bowels, pain and vomiting being prominent symptoms, with a dull area in left iliac region, the introduction of one of these instruments to the depth of nine inches was followed by a gush of air and liquid fæces with immediate relief to the patient. In another case this speculum was of unexpected value. Having to close a large high rectovaginal fistula, which had been already operated upon four times unsuccessfully, the rectal opening being five and one-half inches from the anus, I stitched, as I supposed, using an ordinary Sims speculum, the edges only of the fistula, without freshening, as a barrier for the sutures on the vaginal side. Having completed the vaginal closure I tried to introduce a long speculum, in order to see if my stitches held in the rectal mucosa. I found that I had unwittingly entirely closed

the lumen of the bowel by stitching in a loose fold of mucosa that lay upon the opening. This I corrected and the result was perfect. If I had not used the long speculum I should at least have had a failure and never have known what caused it.

It has occurred to me that in case of a low sigmoidal obstruction following an abdominal operation, the opening of the bowel in this way might afford relief. I have never had an opportunity to try it.

It is needless to remark upon the great care needed in making high rectal or sigmoidal examinations when the caliber of the bowel is reduced or the resiliency diminished by adjacent inflammations or tumors.

The first instruments I devised in 1892 had the groove of the Sims speculum. I found later that a straight flat surface gave just as good results, except in the largest sizes. The cost of the latter is slight compared to that of those with the groove.

These instruments are, as you see, only straight flat pieces of steel with four inches bent down for a handle. The handle can be made to fold down, if desired.

The sizes I have found most convenient are one twelve inches long and three-quarters inch wide; one ten inches long and one-half inch wide, and one eight inches long and one-quarter inch wide. I have occasionally used one eight inches long and one and one-quarter inches wide.

21 South Tenth Street.

ECTOPIC PREGNANCIES OPERATED ON BEFORE RUPTURE: THE SIGNIFICANCE OF INTERVILLOUS HÆMORRHAGES IN THE INTERRUPTION OF ECTOPIC GESTATION.*

By C. E. Manierre, M.D., Chicago,
Professor of Gynæcology in the Chicago Policlinic,
and
Maximilian Herzog, M.D., Chicago,
Professor of Pathology in the Chicago Policlinic.

Scattered through gynæcological literature for the last ten or fifteen years there have been cases of tubal or ectopic pregnancy which have been diagnosed and operated during the first two or three months before rupture took place. It is almost certain that all cases of ectopic gestation are originally tubal, and that the varieties which are found later in the history are due to secondary changes. For instance, we may have a partial tubal abortion with the extrusion of the fœtus from the fimbriated extremity and the continued growth of the placenta, partly within the tube and partly on the peritonæal surfaces of the pelvic organs. Or we may have a rupture of the tube between the layers of the broad ligament giving rise to the so-called intraligamentary variety. While tubal pregnancy may after rupture go on to term, or nearly so, the complications of such cases are so serious and the results comparatively poor, that it seems as if every case of this kind should be operated just as soon as we have a reasonable suspicion of its presence. Of course, the number of cases which we shall be able to diagnose in the early weeks will always be small, because patients as a rule will look upon the ordinary symptoms arising as something trivial and unworthy of attention. If, however, physicians would take pains to examine carefully every woman with an irregular menstrual flow during the early weeks of what is supposed to be normal pregnancy, there will be many cases discovered which would be otherwise overlooked.

The mortality of extra-uterine pregnancy according to Schauta in the cases left alone was 68.8 per cent., basing his figures on 241 cases. A. Martin has shown that 36.9 per cent. of 265 cases of extra-uterine

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pregnancy recovered under an expectant plan of treatment, but he has also shown that 76.7 per cent. out of 515 cases recovered under operative treatment. These figures are taken from Howard Kelly's recent book, and he adds that in the hands of a good operator the mortality would not exceed 5 or 6 per cent. In the early weeks I believe that operations in cases yet unruptured would be followed by a still smaller rate of mortality. Werth's advice, "one should remove every ectopic sac the same as a malignant growth, as quickly as possible, and radically," is most excellent, and I believe should be implicitly followed during the early weeks and these remarks are intended to apply only to the cases recognized at this period.

The diagnosis of unruptured cases is based on the cessation of menstruation for one or two periods, followed then by an irregular hemorrhage usually slight, and accompanied by more than ordinary pain. Sometimes the period may be delayed only a week or ten days, when the bleeding occurs, accompanied by the usual feeling of nausea, and particularly if the patient has a history of more or less continued sterility, it is always an indication for the bimanual examination. Brettauer (*N. Y. medizinische Monatschr.*, February, 1895), in a very interesting article on his personal experience with ectopic gestation, says: "By far the most important symptom which moves the patient to consult the physician is the constant appearance of atypical, not profuse uterine bleeding caused by contraction of the tubal wall, and ordinarily accompanied by labor-like pains." Bimanual examination is now positively indicated, if necessary under an anæsthetic, and by this examination I mean a thorough outlining of the pelvic organs, and not the simple introduction of one or two fingers into the vagina, and a guess as to the condition, as I have seen so many men do. The uterus will be found somewhat enlarged in most cases and at one or other side will be found a cystic mass which can usually be mapped out as connected with the uterus at the cornu. This mass, of course, cannot be distinguished by means of palpation, in any positive way, from a hydro- or pyosalpinx, but a non-adherent ovarian cyst can often be recognized by its freedom from any close connection with the uterus. Meinert (*Centr. f. Gyn.*, Nos. 6, p. 171, 1897) says "interstitial myomas, and also inflammatory tumors of the adnexæ, especially in the subacute stages which give rise to atypical bleeding, can very easily lead to errors in diagnosis." In these cases the history of the patient will help to prevent such errors. A patient with no history of a pelvic trouble, and probably a long period of sterility, ceases menstruating, a little later has pain, and begins to flow. In numerous cases the

pregnancy has existed only 14-21 days, so that menstruation had not yet been passed, but here the same rule of an irregular bleeding would apply. The last menstruation, presumably protracted, is already signal of the fœtal death.

Leopold looks upon genital bleeding as a sign of fœtal death. Brosin contradicts this, because he found a living fœtus in spite of bleeding which lasted weeks. Expulsion of decidua from the uterus is looked upon as a sign of tubal pregnancy, and of course this sign is of value only in cases where the microscopist finds decidual tissue present, and the complete absence of chorionic villi. To be sure, this sign can only occasionally be of value in the diagnosis because it will not always occur.

With reference to treatment I fully believe that in all the early cases diagnosed before rupture has occurred, that we have only one method of procedure which is uniformly reliable and safe, namely abdominal section and removal of the pregnant tube. The operation is practically almost free from danger in the hands of an operator who is in the habit of doing abdominal work. The difficulty is no greater than that met with in the operation for the removal of small ovarian cysts or a hydro- or pyosalpinx without adhesions, and most of the cases are without adhesions. I do not want to be misunderstood as to the class of cases in which I should most urgently press upon patients the absolute necessity for immediate operation, just as urgently as I should in cases already ruptured and bleeding. These are the cases which are within the first eight to twelve weeks of pregnancy. They are usually quite free from adhesions and can be removed with only the smallest amount of risk. It is perfectly well known to the profession that in certain cases rupture takes place between the layers of the broad ligament, hematoma is formed and eventually may be absorbed. In this latter class the symptoms vary with the amount of hæmorrhage and here there may be room for an honest difference of opinion as to whether they should all be operated, and if so, whether by the abdominal or the vaginal route. Janvrin, in the Transactions of the American Gynæcological Society, 1888, is a very warm advocate of what he calls the primary laparotomy in tubal pregnancy, and advises it in all cases as soon as a diagnosis has been made. He says whether there has been slight laceration of the peritonæal covering and consequent small hæmorrhage, accompanied by tearing of the nerve filaments and some shock; or whether there has been a decided rupture of the entire tube, with severe shock and partial or total extrusion of the fœtus into the abdominal cavity, or even if there has been no rupture at all."

The following cases in my work are interesting as bearing upon this topic, and I take the liberty of reporting them.

Mrs. A., 35 years old, married ten years. Mother living, in good health. Father died of some œsophageal growth at 50 years. Two brothers living, in good health. One sister died of scarlatina, and one of appendicitis. Patient had measles and tonsillitis during childhood. First menstruation at 14 years, always regular before marriage and lasted five or six days. Had one child born eleven months after marriage. During pregnancy had synovitis of right knee-joint (probably gonorrhœal), which confined her to bed for two months and resulted in partial anchylosis. General health always been good.

Last menstruation May 22, 1898. July 20th she vomited, was dizzy and had intense pain all over the abdomen. July 23d, had a similar attack. Since July 26th has had a dark, brownish-red discharge from the vagina. July 30th, patient came to my office for examination as to whether she were pregnant. Examination highly unsatisfactory, but told her that from her history should say she were pregnant, but the bimanual gave no positive evidence. August 6th, patient's husband brought me a cast from the uterus which patient had passed some hours before without much pain. The following day examined patient in bed at home and could then very distinctly outline a mass to the left, and above the uterus, which mass was moderately sensitive. In this case there were almost no adhesions to the tube and the mass was mapped out more satisfactorily and a probable diagnosis of ectopic gestation was made. After the examination under ether the patient complained of considerable abdominal tenderness, and increased rapidity of the pulse which must have been due to hæmorrhage in the abdominal cavity. The manipulations of the examination had produced enough trauma to cause a very limited intraperitonæal bleeding, which was shown by the presence of a few clots at the time of the operation some three days later.

The left unruptured pregnant tube was removed by laparotomy August 11, 1898. The right tube was resected, as it was the seat of chronic salpingitis, the fimbria were closed, and the infundibulum was markedly enlarged. The fœtus was about seven weeks old. In this case there was almost no adhesions to the tube and the mass could be turned out on to the abdominal wall with perfect ease. Patient never had an abdominal symptom after the operation, made a complete and perfect recovery and has continued in most excellent health ever since.

In examining this history we find that the bloody discharge from

the vagina began seven to eight weeks after the last menstrual period, and upon the removal of the tube, the age of the fœtus just about corresponded to this date. Is the uterine hæmorrhage the signal that the fœtus has died from an intervillous hæmorrhage?

Mrs. W., 32 years of age, married, no children, no miscarriages. Married at 25 years. Parents both living and in good health; father 67 years old, mother 65 years. Five brothers and two sisters living and in good health. One brother died of encephalitis at 18 years, and one sister died of pulmonary hæmorrhage.

Patient had the ordinary diseases of childhood. Menstruated at 11 years, but was never regular, frequently went six to twelve weeks, but had no dysmenorrhœa. The menstrual discharge always rather profuse. Six years ago had a uterine hæmorrhage lasting some three weeks, during all of which time the patient was in bed and felt very week for a long time afterwards. She was very constipated, and had curettage and also some operation on the rectum at this same time. A year and a half later, patient had another hæmorrhage from the uterus which lasted some five or six weeks. Since then her general health has been fairly good.

July 1, 1898, while in Louisville, and when it was about six weeks from her last menstrual period, she was taken with dysentery. July 2d, she menstruated during the day. She returned home July 2d, and after the 4th again menstruated; this flow continuing until after she had had her abdomen opened on August 20, 1898. About the time of her first flow she had pretty sharp abdominal pains which were attributed to the intestinal trouble that lasted a week to ten days.

I first saw the patient July 11th, but at that time she declined a vaginal examination because she was "unwell." She was then having a little temperature, not over 100° F., her pulse was not much accelerated, had some tenderness over the abdominal wall, and griping pains which were attributed to the intestinal condition, on account of the frequency of the stools and the accumulation of gas in the bowels. General condition fairly good. On making bimanual examination some four days later the os was found somewhat patulous admitting first joint of examining finger to internal os. Something which felt like decidual or placental tissue was found in the cavity. At the right of the uterus was to be felt an enlarged tube which was only slightly sensitive on pressure. Advised curettage which was not allowed until July 25th, and then only because the flow did not stop. On the discovery of the enlarged tube, had advised her removal to the hospital so that both a curettage, and removal of the tube at the same

time could be done, but the patient stated very positively that the physician who had curetted her several years before had told her she had an enlarged and inflamed tube at this time. This, of course, favored a diagnosis of chronic salpingitis, and curetting was finally done at patient's house. A moderate quantity of rather offensive tissue was removed from the uterus July 25th, which had the appearance of ordinary placental or decidual tissue. For a few days the uterine discharge decidedly diminished, but then again increased and became the same as formerly. Of course, ectopic gestation was suspected but the history which the patient gave so positively of a chronic tubal trouble, the small size of the mass, and the unusually free mobility of it, spoke decidedly against this diagnosis. After curetting a great deal of the severe pain over the abdomen disappeared. The bloody discharge continued until August 18th, when the patient went into the hospital, having by that time become convinced that the discharge was due to the tubal difficulty.

Operation August 20, 1898. Removal by laparotomy of the right unruptured tube with five weeks' fœtus. Resection of left ovary for microcystic degeneration, and separation of adhesions around left ovary and tube. The recovery was complete and uninterrupted. In this case the adhesions around the pregnant tube amounted to almost nothing and the operation presented no difficulties whatsoever. The patient made an uneventful recovery from the first, and her health has continued excellent to the present time.

The same thought arises in connection with this patient as with the other one. The pregnancy was found to be about five weeks old, which was just about half the length of time between the cessation of the last menstrual period and the irregular flow on July 2d, which again suggests the possibility of the uterine hæmorrhage being the expression externally of the death of the fœtus from intervillous hæmorrhage, which was revealed by the microscopical examination made by Dr. Herzog. Of course, in this case the mistake was made of not having the scrapings examined at the time of the curettage, which might have given us a clue. If decidual tissue had been found in these, and chorionic villi had been absent, we could have concluded the presence of ectopic pregnancy.

Pathological Report by Maximilian Herzog, M.D.

Tubal pregnancy according to the statements of most authors who have written upon the subject, is almost universally interrupted by

either one of two occurrences, by rupture or by tubal abortion. *Martin* and *Orthmann* (Martin: Die Krankheiten der Eileiter, p. 331) in their recent elaborate treatise say: "In the majority of cases there occurs—as a rule during the first four months—an early interruption of tubal gestation. The interruption is brought about by either one of two events, either by a tearing of the gestation sac or by abortion. It was Werth who first called attention to the latter type, the significance of which is more and more recognized." *Webster* (*Ectopic Pregnancy*, p. 74, 1895) in enumerating the causes which terminate ectopic gestation, among other events mentions the following: "In a number of cases the ovum may die, as a result of hæmorrhages in its membranes but without very marked outpouring of the blood around it. There is thus formed what is known in uterine pregnancy as "blighted ovum," "fleshy or carneous mole," or "apoplectic ovum." The amount of blood extravasated varies. It may be limited to the decidua and chorion, and may be so great as to compress and so almost close the amniotic cavity. The fœtus may be partly or entirely destroyed. Immediately after these changes the ovum looks like a fresh blood clot." *Henrotin* ("Practice of Obstetrics by American Authors," p. 362, 1899) touching upon the same point states: "An ovum during its first few weeks of growth, depending as it does for life upon very delicate chorionic villi lightly attached, is in great and constant danger of destruction, the circulation is cut off, the ovum is partially or totally detached."

It appears to me that the most frequent primary cause of disturbance of the nutrition of the ovum and of the interruption of tubal pregnancy is neither rupture nor abortion, but hæmorrhage from the tube wall or gestation sac into the intervillous space. Even if these hæmorrhages are at first not so severe as to detach the chorion more or less completely from the decidua, they are dangerous under any condition to the development of the embryo, because they are liable to detach and crush a number of villi and in the course of time generally will cause the death of the embryo.

In the histologic examination of thirty to forty specimens of tubal pregnancies, many of which were obtained by operation, shortly after rupture had taken place, I was struck by certain observations. It was noticed that the degenerative changes of the fœtal placenta were so great that they must have antedated rupture for a considerable period. By the study of the blood in the intervillous space and the degenerative change of the villi, I came to the conclusion that hæmorrhages from the gestation sac at the site of the placenta occur very frequently and

then often interrupt tubal pregnancy long before a rupture takes place. *These hæmorrhages may very appropriately be designated as "intervillous hæmorrhages."*

The two cases of Dr. Manierre, both operated on before rupture had occurred, offer material well adapted to substantiate the claim made above. The microscopic examination of these specimens, in which none of the degenerative changes found can be connected with rupture, because none had taken place, furnishing the following result:

Case I.—Mrs. A. (Fig. 1.) Amnion and chorion are completely

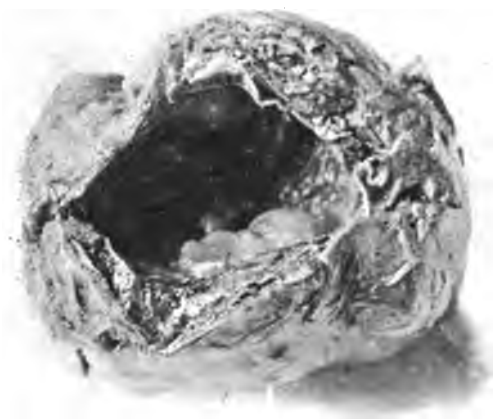


Fig. 1. Tubal pregnancy, about seven weeks advanced.

fused. The amniotic epithelium is well preserved. The amniotic mesoderm is likewise in a fair state of preservation. The chorionic mesoderm shows some degenerative changes, its cells are not so well preserved and the nuclei are frequently indistinct, in some places this tissue has become coarsely fibrillar and here nuclei are entirely missing. The chorionic mesoderm is slightly infiltrated with hematoidin granules. The two ectodermal layers of the chorium, the Langhans layers and the syncytium, can in some places be well seen with their distinguishing features. In others, a single layer is present only, either the Langhans, with large swollen cells, or a very flat syncytium;

while in still other spots both epithelial layers have entirely disappeared. The intervillous space contains villi in all stages of degeneration. Perfectly normal villi are entirely wanting. Degenerative stages are shown to a degree of the mere shadow of a villous consisting on section of an indistinct spherical mass with a hyaline band as its periphery and a granular débris as its center. Blood vessels could not be found, either in the chorion or in the villi. The latter are contained in a network of fibrin, granular débris and hematoidin crystals and granules. The gestation sac opposite the placenta is quite thin. Towards the intervillous space it shows a small band of a compacta, composed of large degenerating decidual cells. The band presents an abundant infiltration with round cells of the lymphocyte and the polynuclear leucocyte type. Many of the latter show nuclear fragmentation. Outside of the compact layer of the decidua there are found large open spaces (spongiosa); these are, of course, not true gland spaces, but they have originally been formed by the fusion of the plicæ of the tubal mucosa. On the outside of the spongiosa there is a thin layer of fusiform cells and fibers. *Muscular fibers were not found in this layer.* The two layers described last show a round cell infiltration though not as marked as the compacta. There are also found maternal blood sinuses in the wall just described, they are of very large caliber and their lumen shows granules, fibrin and also red blood-corpuscles fairly well preserved in size, shape and staining properties.

Transverse section from parts of the tube to the inside of the gestation sac show well preserved tubal plicæ. The lining epithelial cells are of the columnar type and their cilciæ can be well seen. The core of the plicæ shows enlarged vessels surrounded by connective tissue cells which are not of the slender type found in the non-pregnant tube; they are on the contrary quite large and oval with large vesicular nuclei and very much approach the type of decidual cells. Here the muscular fibers of the tube wall are very much hypertrophied and the bundles have been pushed apart by intervening connective tissue. Foci of small, round cell infiltration are seen everywhere in the muscularis, particularly around enlarged vessels. The peritonæal covering does not show any marked changes.

Case II.—Mrs. W. (Fig. 2.) It is hardly necessary to go into all of the details of the result of the microscopic examination of this second case, since it is in most respects only a repetition of the result furnished by Case No. 1. The following exceptions, however, must be noted. While the intervillous space like in Case No. 1 shows granular débris and the derivatives of decomposing hemoglobin, it also shows densely crowded

blood corpuscles of the maternal type, normal in size, shape and staining properties. This shows that blood from the maternal tissues must have entered into the intervillous space shortly before the removal of the pregnant tube, while in Case No. 1 the microscopic examination shows that this cannot have been the case, since all the blood in the intervillous space was badly decomposed.

In Case No. 2 there are also found a considerable number of badly degenerated villi, but many of them are in a very fair state of preser-



Fig. 2. Tubal pregnancy, about five weeks advanced.

vation with fairly normal mesodermal and ectodermal elements. Blood vessels with blood cannot be seen either in the chorion or in the villi; in some places, however, it appears as if collapsed empty blood vessels could be made out.

The gestation sac in Case No. 2 is much thicker and shows less marked degenerative changes, as the sac in Case No. 1. The vessels are quite thick-walled, most of the thickening being due to a sub-endothelial proliferation. The round cell infiltration of inflammatory changes is likewise found freely. Where the plicæ of the tubal mucosa are still preserved, they have become club-shaped, their epithelial cells

are somewhat flattened and their core shows typical large decidual cells.

From the microscopic examination of both of these cases it is seen that hæmorrhages had occurred into the intervillous space and extensive blood coagula had been formed in them. These had damaged the villi, interfered with the nutrition of the embryo and brought about the death of the latter.

One of the embryos was found to be macerated, one was yet in a fair state of preservation. Considering the thinness of the gestation sac in Case No. 1 and its advanced state of degeneration, a rupture would probably have taken place soon. In Case No. 2 this danger seems to have been less imminent.

We must from a pathologic point of view strictly differentiate between the events and phenomena which really interrupt tubal gestation and those occurrences like rupture and tubal abortion which so frequently lead to the most urgent clinical symptoms. This is, of course, by no means a matter of theoretical interest only, but one of the highest practical importance. If it should be possible to establish a set of symptoms as characteristic for "intervillous hæmorrhages," the operator could step in in good time to save his patient from the great dangers of subsequent rupture.

TWO CASES OF GENITAL MALFORMATIONS: (1) RETROHYMENEAL ATRESIA; HÆMATOCOLPOS ET HÆMATOMETRA. (2) VAGINA DUPLEX ET UTERUS SEPTUS.*

By John M. Fisher, M.D., Philadelphia,
Chief of the Department of Diseases of Women and Demonstrator of Gynæcology in the Jefferson Medical College Hospital; Gynæcologist to the Philadelphia Hospital.

Case I.—Mrs. R., aged 17, married thirteen months. Never menstruated. At the age of 14 she began to suffer from cramp-like pains in the lower abdomen and pelvis at intervals varying between one, two, and three months, of sufficient severity to confine her to bed for two and three days at a time. Within the past year and a half these attacks have recurred with comparative regularity every four weeks, and of late have been attended with pelvic tenderness and with hypogastric distention that subsides to a degree subsequently but at no time disappears completely. She has a constant feeling of fulness in the rectum and defecation is difficult. A rounded mass protruding from the vulvar orificé was first noticed about three months ago. Intercourse has been impossible. Always enjoyed excellent health otherwise. Patient is of the plethoric type, short in stature, and proportionately well formed.

On examination the lower portion of the abdomen is distended by an elastic fluctuating enlargement the size of a clenched fist. The external genitals are pushed beyond their normal level, overstretched, and the labii are widely separated by a bulging vaginal tumor, presenting a bluish discolored central area corresponding with the dilated orifice of the intact hymen, which is spread over its surface and appears to be intimately connected with its structure. The tumor is tense, elastic and fluctuates. Bimanually the common identity of the abdominal and vaginal distentions is readily determined—pressure upon the one resulting in more pronounced tenseness and greater prominence of the other.

Diagnosis.—Retrohymeneal atresia; hæmatocolpos et hæmatometra. Operation March 17th, assisted by Dr. Ignazio Cortese. Chloroform anæsthesia. The thick, dense membranous structure of the vaginal

* Read before the Philadelphia Obstetrical Society, May 3, 1900.

prominence was incised vertically, from a point below the urinary meatus to the fourchette, and three pints of black, tarry fluid were evacuated. The hypogastric enlargement at once subsided. The vagina remained more or less fixedly dilated, its mucous membrane was markedly hypertrophied, and presented an uneven rough surface. The cervix was almost obliterated and the uterine cavity formed a common canal with that of the vagina. The cavity was irrigated with a bichloride solution, 1 to 5000, and then packed with iodoform gauze. The gauze was removed on the third day, the parts irrigated and repacked. After the lapse of a week the packing was discontinued. Patient made an uninterrupted recovery.

Upon examining the parts two weeks later it was found that the tissues at the site of the incision had contracted, leaving an opening a caliber barely sufficient to admit three fingers. The vagina above this cicatricial ring was elastic and pliable and normally distensible. The uterine cervix was well defined and the organ generally firmly contracted, but somewhat limited in mobility. The narrowed vaginal entrance was now enlarged by incising the lateral remains of the hymen and suture of the cut edges to prevent reunion. The final result was perfect. A crucial, instead of a vertical section of the obstructing membrane, originally, would have obviated the necessity of a second operation.

Case II.—Mrs. M., aged 25. Married two years; never pregnant. Puberty at 14; menses irregular, intervals of from one to three months elapsing between periods; flow four and five days, profuse, clotted and painful. Three months after marriage bleeding became more or less continuous with repeated attacks of excessive flooding. Patient is of a large frame, poorly nourished and presents every evidence of pronounced anæmia. Examination disclosed a well formed, roomy pelvis, and normally developed external genitals. Upon separating the labii, instead of bordering a single introitus the retracted remains of the hymen surrounded two openings, separated by a median vertical septum that divided the vaginal structures into two distinct compartments of equal capacity. The septum was exceptionally well developed, its free border measuring no less than one-fourth of an inch in thickness, while its exposed surfaces presented well-marked rugæ. In structure it was identical with that of which it constituted a part in the formation of the two musculo-membranous canals. It was limp and elastic, easily displaced, and in its tubular capacity was compensatory in function in that one canal became narrowed under the stress of a mechanical distention of its fellow. Close to either side of the septum where it

merged with, and entered into the formation of the vaginal vaults were two irregularly rounded, eroded and dimpled elevations. The dimples proved to be separated, cervical openings and the coincident introduction of a sound through each revealed the presence of a well-formed partition that extended to a point within a short distance of a



Reproduced from a negative. Dr. Fisher's case.

common uterine fundus. The uterus was somewhat hypertrophied, and the discharge from the cervical openings indicated a hæmorrhagic and catarrhal condition of its lining membrane.

Operation November 19, 1899, assisted by the family physician, Dr. Elmer H. Rogers. Ether anæsthesia. The lateral vaginal walls were drawn to either side by wide-bladed retractors, thus rendering the intervening septum tense. Owing to the thickness and vascularity

of the septum it was divided with a straight scissors by making longitudinal sections of about an inch at a time followed by immediate suture and closure of the corresponding cut edges anteriorly and posteriorly, with chromisized catgut, and so on until by successive steps the entire membrane was severed and a single vaginal canal formed throughout. Upon reaching the vaginal vault traction upon the distal sutures readily brought the partitioned cervix into view and was thus held in a fixed position for treatment. Both cervical canals were dilated until the narrow blades of a scissors could be introduced to divide the thickened lower segment of the septum. This done, its remaining portion was ruptured by the introduction of graduated bougies up to No. 41 of the French scale. The uterine cavity was next curetted and irrigated and then packed with iodoform gauze. The packing was removed from both vagina and uterus on the fifth day, followed by placing a strip of gauze between the sutured edges in the vagina every third day for a period of two weeks. The patient made an uneventful recovery. The writer saw her last four weeks ago (more than five months after operation). She now menstruates regularly at intervals of four weeks, the flow being painless and continuing from four to five days. The vagina is normal in size, possesses the property of equable distensibility, and aside from presenting two slightly elevated median longitudinal ridges, anteriorly and posteriorly, nothing remains to indicate the presence of the previous anomaly. The uterus is freely movable, the vaginal cervix is small and eliptical in outline, and presents a single opening leading to a common uterine canal. The patient has gained nineteen pounds in weight, and presents every indication of robust health.

The special interesting features of this case were: The well-formed fleshy and lax vaginal septum and its *median position.* Two other cases have come under the writer's observation, but in each the septum, though dense and resisting, was without rugous elevations and comparatively thin, and so situated as to form vaginal canals of markedly unequal dimensions. Recent literature upon this subject tends to prove the extreme rarity of well-developed symmetrical duplicity of the vaginal structure. The ætiology of these conditions is well understood. A comprehensive exposition of the pathological significance of genital malformations in the female is given by Dr. Brooks H. Wells in the March number of the *American Journal of Obstetrics.*

POLYURIA IN PREGNANCY.*

By Wilmer Krusen, M.D., Philadelphia.

Obstetricians are unanimous in the opinion that careful attention should be given to the renal function in pregnant women. The urine should be examined once or twice a month, or oftener if indications are present, to ascertain the physical, chemical and microscopical qualities, and to detect any alterations of its quantity and quality. Many cases of eclampsia may be averted, or their severity modified by such a procedure. To be forewarned is to be forearmed in the treatment of these complications due to renal lesion, or disturbed renal function. Normally, the urine in pregnancy is increased in quantity, becomes more watery and has a lessened specific gravity. This is probably due to the hydræmic condition which exists, and to the increased functional activity of a somewhat enlarged kidney attributable to an increased blood supply and the increased arterial tension. Greater frequency of urination, due to pressure upon the bladder by the rapidly enlarging uterus, may be mistaken for a polyuric condition; but the amount passed daily is easily ascertained by repeated daily measurements of all urine excreted. When the amount of urine becomes excessive, the patient suffers exceedingly from great thirst and from loss of rest occasioned by the frequent evacuation of urine.

The *excessive* polyuria of pregnancy is evidently rare as the literature on the subject is extremely meagre. J. Mathews Duncan (Tr. Edin. Obstet. Society, Vol. III., Page 363) reports a case of polyuria occurring in a multipara, aged 25 years, who suffered from polyuria during the seventh month of pregnancy. She had premature labor and the child lived but five hours. In this instance the urine contained no albumen, no sugar, and the highest amount passed was 320 ounces in twenty-four hours. B. C. Hirst (Text Book of Obstetrics, 1898, p. 231) has had a woman under his care who passed 220 ounces of urine per day. In the following case, as the patient was the wife of a physician, a thoroughly accurate and intelligent study of the abnormality could be satisfactorily made.

The patient, Mrs. X., aged 31 years, had had the ordinary diseases of childhood, scarlatina at four years, followed by some obscure kidney

* Read before the Philadelphia Obstetrical Society, May 3, 1900.

trouble until 12 years of age. Menstruation began during the twelfth year. In 1896 had an attack of enteric fever. The first child (female) was born April 1, 1898; at that labor there was a large amount of liquor amnii, and she had suffered considerably from edema of the lower extremities during the latter months of the pregnancy. She became pregnant a second time in April, 1899. The uterus was much larger than usual during the last few months of gestation, and although twin pregnancy was suspected a positive diagnosis was not made. The polyuria became noticeable during the last two months, and the excessive thirst and frequent desire for urination caused the patient much discomfort. Urinary examinations and measurements were made as follows:

January 2, 1900, 224 ounces of urine voided during 24 hours. Sp. Gr. 1001; no albumen; no sugar.

January 5, 234 ounces (Ward's report). Reaction, faintly acid; S. G. 1005; urea, 0.3 per cent., or 319 grs. in 24 hours. Albumen, none; sugar, none. Microscopical Ex. A few small uric crystals, amorphous urates, and large squamous epithelial cells slightly granular.

January 6th. By much self-denial in abstaining from drinking as much water as she desired, only 178 ounces were passed. There was much swelling of the extremities and face with considerable pain in the limbs and left groin.

January 7th. 82 oz. Great thirst, edema less marked.

January 8th. 108 oz. Swelling increased. Complained of itching and stinging sensation of the legs.

January 9th. 185 ounces.

January 10th. 160 ounces. More swelling of the forearms, hands and lower extremities.

January 12th. 215 ounces (Ward's report). Reaction, acid. Sp. Gr. 1004; urates, 0.2 per cent., or 196 grs. Albumen, none; sugar, none. Micro. Ex. A few very small uric acid crystals, amorphous urates, normal and granular, squamous epithelial cells. No casts.

January 13th. 182 ounces.

January 14. 166 ounces. A hot bath was given at 11 p. m. and ten minutes later labor pains began, and at 2:30 a. m., January 15th, the patient gave birth to two boys weighing 6½ and 7½ pounds respectively. The labor was normal, both fœtuses presented by the cephalic extremity; a very large amount of amniotic fluid was present. The subsequent convalescence was uneventful; the swelling, thirst and polyuria gradually subsiding, the patient made an excellent recovery. In this case the twin pregnancy caused unusual distention and marked pressure

symptoms. The exact cause of the excessive urinary secretion is difficult to determine.

Vinay (*Gaz. Hebdom. de Méd. et de Chir.*, Nov. 24, '98) has observed two cases of diabetus insipidus in pregnant women. The effect of diabetes insipidus upon pregnancy seems quite similar to diabetes mellitus; it may cause the interruption of pregnancy and the prognosis is not without gravity. One of Vinay's cases died from pulmonary embolism 29 days after labor, and the other of rapidly progressing tuberculosis of the lungs.

The relation of intracranial lesions to polyuria has been noted by Steinhaus, who records a case of double hemianopsia and diabetes insipidus in a woman 33 years of age, with a syphilitic history. In this case the urine was passed in quantities as great as 7 litres a day. Bernard found that injury to the floor of the fourth ventricle and also section of the splanchnic nerves produced temporary polyuria. Peyrani caused it by irritation of the cervical sympathetic, and Kahler induced permanent polyuria in rabbits by injury to the cerebellum and medulla oblongata. The definite relation of affections of the nervous system and temporary increase in urinary secretion is a well known fact. Polyuria has been noted in connection with abdominal tumors, especially when in the vicinity of the cœliac plexus and also as an accompaniment of chronic and inflammatory processes in the same region; so possibly in the instance herein described the extraordinary pressure on the cœliac plexus, due to the twin pregnancy, may have produced a similar result.

The treatment of such cases, so long as no abnormal constituents are are present in the urine and the quantity of urea eliminated in 24 hours is adequate, should be in accordance with the usual hygienic principles governing the care of pregnant women. It has been well said that " the border line between health and disease is so easily passed in pregnancy that the most serious complications may acquire irresistible headway, undetected, unless the patient is advised carefully, and constantly watched during the whole of her gestation."

(The writer is indebted to the husband of the patient for accurate notes, and to Dr. Nathan G. Ward for careful urinary analysis in this case.)

CANCER OF THE BREAST.

By R. Stansbury Sutton, A.M., M.D., LL.D., Pittsburg, Pa.

That division of the structure of the mammary gland in which cancer is primarily developed consists of the glandular substance deposited in lobes and confined in well defined spaces, bounded or walled in by connective tissue in fibrous layers. Each of these lobes is provided with an excretory duct, the terminal branches of which penetrate the lobules into which each lobe is subdivided.

The excretory duct of each lobe is known as a lactiferous or milk duct. These ducts, from 15 to 20 in number, converge toward the areola, surrounding the nipple. Beneath the areola the calibre of the duct is greatest. This portion of a duct is known as its ampulla, and serves as a small reservoir for the lacteal secretion. All the ducts, now, diminishing in calibre, converge toward the nipple, on the summit of which they open by separate orifices.

Each lobe of glandular tissue is divided into lobules-acini. Cancer of the breast begins either in the acini, or ducts; these two varieties are known in medical literature as acinous cancer and duct cancer. The division is both anatomical and arbitrary. The germ characterizing the disease is probably the same in both varieties, but the anatomical or histological changes in the tissues at various ages, for the structure, justify the division. These changes are clearly reflected in the clinical features of the disease. Cancer developing in the plump breast of a woman of 30, with plenty of glandular tissue, presents an entirely different picture from cancer developing in lacteal ducts of an old woman, in whose breasts the glandular tissue has been absorbed.

Another important fact, to be coupled with these facts, is that sarcoma never has its origin in glandular tissue, and only travels to distant parts through the blood vessels. With these few remarks we are now ready to trace rationally the clinical features of these two varieties of cancer of the breast. This brief sketch is the thread of Ariadne laid through the labyrinth we are now to enter.

It strings together the ducts, the lobes, and their lobules, in which the cancer takes its origin. Also the surrounding lymphatic vessels, leading to neighboring or distant lymphatic glands, constituting the avenues through which the cancer cells disseminate themselves to other localities.

Acinous cancer first appears as a circumscribed solid mass—it grows slowly, excepting during lactation, and very slowly in old subjects. A low but persistent form of inflammatory action causes an infiltration of the surrounding tissue; downward, the fascia of the underlying muscles, the muscles themselves and the connective tissue: upwards, the connective tissue and the skin are involved. The entire gland has become anchored to the pectoral fascia and muscle by fixation of the cancerous mass. The primary infiltration, like that of all inflammatory processes, is absorbed, leaving the surrounding tissues to shrink and harden. This effort of nature to encapsulate the enemy results in diminishing the size of the breast. It becomes therefore hard, less movable and smaller than its fellow. The skin has become involved, it is no longer freely movable, it is adherent to the underlying mass. The hair follicles of the skin have been seized and fixed, so that if the skin is pinched up, it is held down at these points as the cover on a mattress or chair is held down by threads and buttons at intervals. Sir William Banks has likened this condition to the pigskin leather of a saddle, and calls it the "pigskin" appearance.

As the growth progresses the nipple may or may not be retracted, and, excepting in cases where the growth is situated just beneath the nipple, itself, the fact is of no clinical value. In the latter cases, however, the late Prof. Samuel D. Gross taught that retraction of the nipple was pathognomonic of cancer of the breast. Time continues to verify his teaching.

The skin now fixed, its circulation altered, takes on a purplish hue, breaks, and an ulcer results. The resulting ulcer grows irregular in shape, its edges are raised, its floor is covered with granulations, which secrete a thin, foul smelling, ichorous and sometimes sanguineous fluid. Some patients complain of sharp lancinating pain, radiated to the shoulder, others make no complaint of pain. In the early stages of cancer of the breast pain is of rare occurrence, while it is a common accompaniment of cancer of the breast in its advanced stages.

Pari passu with the development of the conditions already noted, lymph gland infection manifests itself along the border of the Pectoralis Major, in the axilla, and in the posterior triangle of the neck. As the glands in the apex of the axilla enlarge they make pressure on the axillary vein, and œdema of the corresponding arm intervenes. The skin becomes tense and shining, it fails to pit on pressure, while the arm becomes infiltrated with serum, grows heavy, painful, and useless.

Through the lymph channels the germs reach the internal organs, and secondary deposits of cancer may occur in any organ to which the

channels or their ramifications lead. Blood infection, followed by emaciation and neurasthenia end the scene.

The acinous variety of breast cancer may be regarded as its most prevalent and typical form, but it is not the only form.

At the close of menstrual life the breasts participate in the rest following, their glandular tissues atrophy, and largely disappear. The ducts remain, and when the lining epithelium degenerates in one or more of the ducts, producing cancer, or papilloma resembling cancer, the variety already referred to as "duct cancer" is present. The anatomical relations having been modified, a similar approaching modification is to be expected in the clinical features of this variety of breast cancer.

The tumor being cystic, or semi-cystic, is softer than acinous cancer, selecting the ampulla of the ducts as a point of development, the growth is usually more superficial, and discoloration of the skin occurs at an earlier date.

A sero-sanguinolent fluid exudes from the nipple, which is not retracted, but may be inverted. The atrophy of glandular tissue and lymph channels, and the early isolation of the degenerating epithelium by the duct wall, which becomes the capsule, heads off the progress of the infection, and the glands of the axilla and neck are not enlarged. Recurrence after removal is less frequent than in case of the acinous cancer. When in the breast, axilla and neck, the glandular tissue becomes cancerous, a low form of inflammatory action attacks the surrounding tissues, and they become infected with cancerous germs. Thus in rotation the glandular tissue, skin, fascia, muscles, and blood vessels become involved. As to the ages at which the two varieties of the disease manifest themselves, the picture drawn is too shapely defined for the young surgeon. But the earlier in life the disease begins, the greater is the probability that the variety is acinous cancer. And conversely, the later the disease manifests itself the greater the probability that the disease is of the duct variety, or duct cancer.

Mention of the conditions simulating cancer, and in some instances rendering the diagnosis, prior to operation, impossible, or almost impossible, have thus far been omitted. We will consider them briefly. The differential diagnosis between cancer of the breast and other growths, in its substance, has been the subject of argument for more than one generation. Macroscopic appearances are only reliable within certain limits. Microscopic appearances are not reliable within all limits. Hence, clinical experience aided by both forms the soundest base upon which the surgeon can rest his judgment.

Fibrous or cystic adenomata are usually considered benign tumors, macroscopically and microscopically they lack the evidences of cancer. They contain glandular tissue, it was strung upon the thread of Ariadne which we laid through this labyrinth. It is already in a pathological condition, bound up in inflammatory products, a tumor-shaped mass; or if it be cystic adenoma, it is encapsulated, the stroma is thickened fibrous tissue, the acini are dilated, the epithelium lining their cavities is proliferating. It is pathological and papillomatous growths are possibly sprouting into the cyst cavity, and the breast is doomed to destruction. Shall these growths be treated as if benign? Shall their doubtful character influence the surgeon into simple removal, thus excluding the patient from the benefit of a doubt?

My experience has not been uniform. But in the light of it, sacrifice of the breast in all doubtful cases is the safest course to pursue. In the diagnosis of breast cancer, heredity, pain, and the history of a trivial blow upon the breast count for little. Nipple retraction is of no value, save in the exception hitherto noted. Exploratory incision should always precede an amputation; if a small abscess deeply imbedded, or a simple cyst be encountered, curettage and drainage may limit the surgical procedeure.

The "pancake" breast, in chronic interstitial mastitis, first described by one of my old masters, Prof. Bilroth of Vienna, is in my experience of rare occurrence—it is of uneven surface, atrophic in its progress, does not adhere to the underlying fascia, and muscle, and the inflammatory and contracting process does not involve the skin. The axillary glands are not involved. Should it be removed? It has already become useless, pathological changes are going on in it: in cases where there are no contraindications removal is not hurtful, and gives the patient the benefit of all doubt as to any letamorphosis which may possibly occur in the future. Many degrees of operation are advocated. In that condition where the supra-clavicular glands, on our thread of guidance, are involved, amputation by any method, or in any degree, is useless—and all useless operations are baneful.

Sir William Banks of Liverpool has insisted upon free removal of the skin adjacent to the disease, advice based upon early superficial recurrences. Prof. Halstead of Baltimore has laid great stress upon removal of all infected muscular tissue.

And all are agreed upon the removal of the pectoral fascia and all diseased, and even normal, axillary glands, as far as it is possible to dissect them out. With these principles resting as they do upon sound clinical experience, the technique of the operation and its thoroughness

may be left to the individual surgeon. What is the cause of cancer? Is it due to an infraction of the biological law "that complete life depends upon the complete discharge of function?" The pathology of cancer is still sub judice. Is there a germ which disturbs the healthy epithelium, causing it to proliferate by fission or budding? Is there an existing germ? Or is this pathological condition accidental? I believe that research and experiment will yet divulge the germ. In a recent article in the *British Medical Journal,* by Sir William Banks, I find this view put forward. I commend his entire article to the reader. Dr. Russell of Edinburg in 1890, published a paper on "A Characteristic Organism of Cancer." During the same year similar bodies were described by Sondakewitch and Ruffer. Mitcnikoff pronounced them "parasitic protozoa." From these authorities, and the researches of Plimmer and Buchanon of England, Sir William in reference to these germs, says: "I have been convinced that they do exist."



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EDITORIAL.

MEDICAL ADVERTISING.

Sometimes it is pleasant to be able to rest from criticism, condemning and exhorting, and to find and commend some praiseworthy thing. It is therefore very gratifying to us to read the recent remarks of some of our contemporaries upon the subject of medical advertising. And it is the more grateful that these notes of no uncertain tone come from the West, where we of the East—unjustly perhaps—have been wont to look for journalism of quite another character. Of the latter there is still plenty but the attitude of the better and in some cases newer journals towards this question—an attitude that must imply financial loss, even (in the case of newer journals) to the imperilment of their existence—we cannot praise too highly nor too earnestly recommend to the consideration of many of our Eastern contemporaries. We have especially in mind the *St. Paul Medical Journal*, the *Cleveland Journal of Medicine*, the *Colorado Medical Journal* and the *Western Medical Review*. The *St. Paul Medical Journal* has estimated the number of strictly honest medical periodicals in the country at about a dozen, out of two hundred and fifty of all sorts. This is certainly a startling statement but the journal in question makes it advisedly.

Of course this dishonesty takes all forms, from the frankly debased editorial or "original article" extolling the merits of some pharmaceutical preparation, down through the "reading notices" to pages of advertising interlarded in the journal; this last to be condemned more on the score of hopelessly bad taste than of actual dishonesty, inasmuch as such pages stand for what they are. Journals which exist solely for the purpose of advertising some special preparation or preparations we need not deal with now, since they possess nothing to which we can appeal and since the solution of their continuity depends upon whether physicians discountenance them and the products they advertise. It is the intermediate class, journals of good or middle standing, which yet for financial reasons allow their standards to be lowered by the insertion of advertising matter in other than their advertising pages, that we would address. They are yet open to improvement and we feel that their gain in self-respect would more than compensate them for their money loss; moreover that this loss itself would in time be made up to them by the increased actual support of physicians who look to medical periodicals for honest articles not for paid advertisements that are out of their place and look uncomfortable and embarrassed in situations to which they are not entitled. If for no higher motives than that of self-preservation we urge these journals to take this subject to heart. Not alone for commendable reasons is the matter working out its own solution. Such advertising methods will soon cease to pay because, when all manufacturing firms advertise in the same way, there will be no advantage to any but chiefly because these masquerading advertisements have ceased to appeal even to those physicians who are not disgusted thereby. The thoughtful and upright men in the profession who would now respect their journals more for a courageous stand in the matter will soon cease altogether to respect them for their lack of it. For the new ideas and higher standards have come to stay and to increase; they will carry far those who endorse them and for the time suffer for them but will bring destruction to such as continue to oppose them.

It will cost at present, all things do—there is no doubt about that. And till medical men signify their appreciation of upright motives in the journals devoted to their interests by limiting their subscriptions to the honest periodicals and by paying the subscriptions promptly (how much they fail in this respect is known only to the bitterness of the editor's heart and makes, at once, the most sordid and trying, yet imperative, question with which he must deal), there will exist a serious financial problem to face. It is worth while,

we think, to quote in full a recent experience of the *Cleveland Journal of Medicine.*

"In relating the following experience, the *Journal* is actuated by the hope of doing some good by enlightening professional opinion upon certain matters of which medical editors have intimate knowledge. To avoid possible misrepresentation of motives, the *Journal* refrains from the use of names.

"Recently—and to this extent it is an almost everyday experience —the *Journal* refused to publish a paper submitted by a pharmaceutic concern between which and the *Journal* pleasant relations had long been sustained. The products of the firm were straightforward honest drugs with no taint of secrecy of composition, and the profession is always entitled to hear candid opinions by reliable men as to the practical worth of such remedies. The *Journal* refused to publish the article because it did not come from its natural territory, and because for that reason, coupled with the character of the article, many of our readers would naturally have at once concluded that the *Journal* had abandoned its well-known high standard in this matter. The *Journal* considered its reputation of greater worth than the patronage of any drug house, and courteously explained to the firm in question its attitude in this matter, pointing out that it was to the advantage of any honest drug not at any time to have cast upon it the suspicion of being forced upon the market by unethical methods. It is a pleasure to say that by most of the firms with which the *Journal* does business this explanation would readily have been received in the spirit in which it was made. In the present instance, however, the *Journal* was soon after this occurrence informed that the firm's advertising appropriation had run out, and that in consequence the *Journal* would be dropped from its list. In order to get the matter straight the *Journal* subsequently had a personal interview with the advertising manager of the firm in question, and readily ascertained that the real reason for discontinuance of the business was the refusal to publish the aforesaid paper. Warming up to the discussion the advertising manager, who be it said in sorrow is a physician and a member in good standing of the representative organization of the American medical profession, frankly said: 'To HELL WITH MEDICAL ETHICS! It is the dollars that I am after.' The *Journal* is very far from thinking that this is a representative instance among the better class of pharmaceutic firms, and is rather of the opinion that the official head of this advertising manager would pay for his indiscretion did the *Journal* in a desire for revenge inform his employers of this occurrence. At least 90 per

cent. of the medical journals in this country would gladly have published the article declined by the *Journal* for the sake of obtaining an advertisement from the firm, and the *Journal* wonders somewhat how many of its readers care as to its stand in this matter. Its position in reference to all such matters is irrevocable and is not under discussion as to its continuation, but, from a hope of securing added support, respect and friendship from its readers, it seems advisable at times to take them into its confidence and to indicate how expensive it is for a medical journal to keep its pages strictly clean."

"The *Journal* wonders somewhat how many of its readers care as to its stand in this matter." Not many, we fear, but some; and the good opinion and good wishes of the latter are worth while and their number will increase.

Our own attitude upon this subject can be inferred in great measure from what our reading pages lack. Of the requirements for admission to our advertising pages less may be known and a word may not be amiss. Patented preparations can of course find no place nor anything, whether patented, secret or non-secret, that is advertised or sold to the laity direct. So-called secret preparations, unpatented, brought to the profession's notice in a proper manner and dispensed only upon physicians' prescriptions it seems not fair to debar, though even of these no article is advertised unless its formula be known to the editor; and this rule is strictly insisted upon. It does not seem right to require such formula to be published, though it should be accessible to any honest physician; for pharmacists are not doctors and cannot be required to share their knowledge with their brethren. They appear to have no "code of ethics"; hence if a preparation be good and its formula published it would quickly be imitated by all the pharmaceutical concerns in the country (indeed the evil is great enough already), leaving no rights or emoluments to its originator. This would manifestly be unfair, for such preparations cannot be patented unless their owners wish to damn them forever in the eyes of physicians and to place them directly before the public.

That there should be a place in current medical literature for the unbiased discussion of the various newer preparations is true; but that in the present state of affairs seems impossible. While in so many journals what appears to be such unprejudiced discussion is paid advertising, no self-respecting journal can afford the appearance of evil; moreover the manufacturer is only too ready to take advantage of such articles and use them for his private ends, so that what aims to be an opinion ends by being an advertisement. It is only necessary to refer

to our own recent experiment, The Therapeutic Forum, and its failure, the causes of which were outlined in a recent editorial, to prove the truth of our words. Moreover, it is difficult to get physicians—we know not why—to comment unfavorably upon preparations that have proved unsuccessful in their hands; *nil nisi bonum* does very well with regard to dead people but is hardly applicable to the making of a system of therapeutics.

The end in view, the millennium of the medical journal, is the total elimination of paid advertising; that end is far to seek—all the farther because of the indifference of the profession. That end is sufficient in itself; but not the least of the advantages it would bring with it would be the possibility of discussions that should be above suspicion, and therefore free and trustworthy, of the really important drugs and preparations which science is discovering for us and for an introduction to which we must now be indebted to the pharmacist.

A. D. C.

REVIEWS.

Progressive Medicine. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., assisted by Charles Adams Holder, M.D. Volume I. March, 1900. Lea Brothers & Co., Philadelphia and New York.

The first volume of the second year of this new annual deals in its first division with Surgery of the Head, Neck and Chest. Exophthalmic goitre, bronchocele and operations upon the thyroid are discussed at some length but no certain conclusions seem to have been reached in regard to the many vexed questions relating to this gland. Tuberculosis of the lymph glands of the neck receives considerable attention, also carcinoma of the lip; under the latter head Grant's new operation is fully described, with cuts. Hutton's device for drainage in empyæma is illustrated and foreign bodies in the bronchi, penetrating and gunshot wounds of the chest, drainage in pulmonary abscess and operations in pulmonary tuberculosis are treated of. Under the subject of carcinoma of the breast considerable space is given to Halstead's lengthy and very complete operation, which the editor views with much favor; Cheyne's and Senn's incisions for this operation are both illustrated. Electrolysis and cataphoresis are mentioned only to be condemned; the treatment of inoperable cases by oöphorectomy is also

noticed. Chapters upon wounds of the heart, their prognosis and treatment are most interesting; also the surgical treatment of aortic aneurism. Craniotomy for microcephalus seems a good thing to abandon. Head injuries and gunshot wounds, indications for trephining, operations for epilepsy and insanity, methods of opening the cranium so as to avoid later adhesions, are discussed; also various opinions as to the removal of the ganglion or nerve trunks in trifacial neuralgia, with a long description of the operation of Rose, who formerly removed the ganglion but now does the extracranial operation only much more thoroughly than before. In the division devoted to Infectious Diseases considerable space is given to Manfredi's investigations upon immunity, from which he concludes that the lymphatic glands are "in normal animals the exclusive and usual seat of a latent microbism." There is more matter upon the transmission of infectious agents by insects; also a long discussion on the ætiology of acute rheumatism from the bacteriological point of view, the sum of the evidence being that rheumatism is caused by external agencies, probably bacterial and possibly of various kinds, though the sort most frequently found is one of the forms of pyogenic cocci of attenuated virulence. The articular and some other phenomena may be due merely to the absorption of toxins, the micro-organisms occupying a fixed position in the body. Diphtheria gets more statistics of various kinds and typhoid fever is discussed at length, especially its bacteriology, the Widal reaction, complications and sequelæ. The diagnosis and treatment of cerebro-spinal meningitis by lumbar puncture is well taken up; under measles Koplik's sign is illustrated by a good plate. Various subjects are treated in the division of Children's Diseases, briefly, for the most part, though the use of cereals in the preparation of infant foods is discussed at some length and the causes of incontinence are well tabulated. Under Pathology, infection, intoxication and immunity, new pathogenic organisms and the relation of blastomycetes with carcinoma, also the ray fungi and their relations occupy many pages and there is a long chapter on tumors. Under Laryngology and Rhinology, space is largely given to ozæna, the relation between asthma and nasal disease, the nasal accessory sinuses and congenital infantile stridor. The division of Otology covers well new subjects and methods of treatment and contains a chapter on deafmutism.

Taken as a whole the volume before us is a very interesting one and seems really remarkable for the number and variety of subjects treated, of which it is possible here to mention only a few, and for the fullness yet conciseness of the discussions.

Diseases of the Genito-Urinary System. By Eugene Fuller, M.D. The MacMillan Company, New York, Publishers.

While many recent works have appeared upon this and kindred subjects, scarcely one fills the place which the present book aims to fill. Such as are the product of several writers are partly good and partly bad and are likely to be impaired in value both by repetitions and by omissions; while those written by individual men have generally taken up the subject too exclusively from a venereal point of view, ignoring or obscuring the surgical side and ending by being largely dermatological treatises. Syphilis would seem in the main to belong to dermatology and dermatology to medicine; consequently, the present author ignores the disease except in so far as its lesions are surgical in character and confined to the genito-urinary organs. On the other hand gonorrhœa is a distinctly surgical affection, while its treatment and especially the treatment of its complications and sequelæ demand the limit of surgical knowledge and skill; this is far more than the "venereal specialist" can possess since he must devote so much of his time to become something altogether different—an expert dermatologist. Again, the general surgeon often does not have the experience and knowledge requisite in these special cases; so that the line of demarkation would seem to fall at what we should name genito-urinary surgery. Such a field this book covers—all surgical diseases, venereal or other, affecting the genito-urinary tract from the glans penis to the kidney. It is clear and practical, and does not deal much with abstruse theories nor with either timeworn or valueless and little-used modern methods, though containing the information upon recent practical subjects of importance that one wishes to find: the Janet methods, for instance, which it is necessary to describe in a modern book but which —properly enough—do not commend themselves to the writer. The writer's own views are freely stated and it is particularly valuable in matters of treatment to know what measures have been successful in the hands of a man who has a personal experience to draw upon. The chapters on seminal vesiculitis are particularly full and clear and, though such manipulations present considerable difficulties, both moral and physical in some cases, and require proportionate skill, one gets a very clear idea of the relationship of the seminal vesicles to many symptoms and forms of disease and definite ideas as to their treatment. The writer's method of performing external urethrotomy in uncomplicated cases, through a buttonhole incision, has the advantages of a small external cut, better drainage and speedy convalescence but would

seem somewhat unsure and difficult of performance in less practised hands. The surgical treatment of hypertrophy of the prostate is still at a rather unsatisfactory stage; the operation which the writer seems most to favor and which is productive of the best results in such cases as survive—prostatectomy—he admits carries with it a mortality of from fifteen to eighteen per cent. Litholopaxy the author believes to be the operation of choice in all cases where the removal of the stone will affect a cure and it may sometimes be indicated even as a palliative measure. Surgery of the ureters is taken up at some length, especially the subjects of ureteral catheterism, occlusions, splicing and grafting; while the last chapters are devoted to surgical diseases of the kidney.

TRANSACTIONS OF THE PHILADELPHIA OBSTETRICAL SOCIETY.

Stated Meeting, Thursday, May 3, 1900.

The *President,* J. C. DACOSTA, M.D., in the Chair.

Report of a Case of Ectopic Pregnancy.

Dr. WM. E. PARKE: I have here a specimen of cornual pregnancy in which the sac has become somewhat opaque and shrunken from the alcohol in which it was preserved, but which in the recent state showed beautifully the small fœtus lying within the transparent and distended sac. The sac as you will observe is lying in the left horn of the uterus.

The history of the patient from whom this was removed is as follows: Mrs. B. miscarried in June, 1898, and again in June, 1899, the cause of the miscarriage being a retroverted uterus. She last menstruated regularly in December, 1899, then missed the January period and two weeks later, in February, began to bleed irregularly, there being some show every two or three days for some time, when a hæmorrhage came on which she regarded as a normal period. On March 1st she came to my office suspecting pregnancy. At this time an examination showed a retroverted and slightly enlarged uterus, which I did not succeed in replacing on account of the pain which my efforts gave her. But on the following day at her own home I was able to reposit the uterus and insert a pessary. At this time there were no masses to be felt in the pelvis. Three days later she had a severe attack of pain in the lower abdomen, attended with faintness. She thought the pain might be due to the pessary and removed it. Eight days later she had another attack of pain, which was extremely severe. In this she fainted and at my visit in the evening of this date she had a small, rapid pulse, marked pallor and a somewhat swollen and very tender abdomen. Examination under these conditions was very unsatisfactory. A fulness in the vault of the vagina was recognized but no distinct mass outlined. A diagnosis of extra-uterine pregnancy was made and on the following morning she was removed to the hospital and the operation performed. Upon opening the abdomen a jet of blood about the size of the lead in a pencil was seen coming from a rupture in the

enlarged horn of the uterus. This was no doubt due to the disturbance caused by the curettage which immediately preceded the opening of the abdomen. In addition to the fresh blood there was found about a pint of loose clots in the pelvic cavity, but no encapsulated mass such as is usually found in tubal pregnancies. A hysterectomy was deemed necessary under the circumstances. The patient has made a good recovery.

1739 North Seventeenth Street.

Discussion.

Dr. West: I would like to ask Dr. Parke what was the indication for curettage in his case?

Dr. Downes: This case is particularly interesting to me, on account of a similar one that recently passed through my hands. In speaking to Dr. Fisher I referred to this as a case of cornual pregnancy, but I believe the proper scientific name is interstitial pregnancy. The following is the history of my case: About six weeks ago I was called upon to go to St. Mary's Hospital to see a case of supposed miscarriage. In the morning I went to the hospital, with the intention of doing as the doctor in charge of the case requested—curette and wash out the uterus. The woman was vomiting, and I learned that she had been bleeding constantly for two weeks, *i.e.*, from the time when the miscarriage was supposed to have occurred. Upon introducing the dilator, I found the uterus empty and apparently clean, but there was a slight indication of a thin membrane at the os. The uterus was contracted, and empty, except for a moderate bleeding. She was under ether for only ten minutes. I then sent her back to bed. I must not fail to mention that before dilating the uterus I had examined her and discovered a mass in the left pelvic region. Without much ground for a diagnosis I concluded that I had a case of extra-uterine pregnancy and decided to open her abdomen, and did so in two days. Before doing so, however, I telephoned to the doctor that had sent the case in, and told him that I thought it was a case of extra-uterine pregnancy; he said that he had seen the placenta. I said, "Come and see the case," and he did so. On operation a large sac, consisting of the cornu of the uterus and the adjacent part of the tube, was found. The fœtus, and most of the placenta, had been passed through the uterus. There was also evidence of a profuse hæmorrhage of the abdomen. In three or four days the woman died of sepsis, which she had on entering the hospital. Now the point which I particularly wish to emphasize is that it is very difficult in many cases to

say when it is an extra-uterine pregnancy. I thought it was in this case because the bleeding had persisted constantly from the time when she was believed to have had a miscarriage in spite of the fact that I found the uterus empty. I found some of the placenta in the sac.

Dr. FISHER: I find this case exceedingly interesting, on account of the situation of the pregnancy, and I think that Dr. Parke is to be congratulated upon the patient's recovery; for even when the pregnancy is situated in the inner third of the tube, and a rupture takes place, the case is usually one for the coroner. I believe that in this particular case the woman owed her life to the fact that the rupture was incomplete. The fœtal sac, being still *in situ*, evidently plugged up the opening and kept the patient from bleeding to death.

I should like to ask why, when the patient was in a state of such extreme anemia and shock, the doctor considered it necssary to resort to curetting the uterus as a preliminary measure.

Dr. NOBLE: I did not hear the report of the case, but I had the pleasure of seeing the patient. The case was a very interesting one from the standpoint of diagnosis; but so far as physical examination was concerned it was extremely unsatisfactory, because the pelvic parts were so tender that the patient would not permit a careful inspection to be made. There was to be made out only an indefinite sense of fulness in the pelvis, which was suggestive of the presence of free blood, although not a positive sign; nor could I make out a mass on either side of the uterus. The uterus itself did not impress me as being much enlarged, as one would naturally expect it to be in a case of interstitial pregnancy, and neither as felt by the hand nor as shown by operation was it much larger than normal. This was quite contrary to what one would have expected. Dr. Parke had already made the diagnosis of extra-uterine pregnancy. From the evidence of internal hæmorrhage and from the fact that the uterus was small, I concurred in the belief that that was the only rational conclusion.

In this particular case, owing to the marked shock and anæmia, I think that the operation which was done was the right one. I do not believe that it would have been right to have subjected the patient to the prolonged manipulation and multiple use of ligatures which would have been required for a conservative operation. If one could have seen her sooner, it might have been feasible to have excised the pregnant horn of the uterus and afterwards stitched up the wound. But the patient's condition did not warrant this, for the extra amount of congestion probably meant that a number of secondary ligatures would have had to be put on, and this would have taken a good deal of time,

which in the patient's condition would have been dangerous. For this reason that operation should be reserved for patient's who are in good condition.

I must congratulate Dr. Parke, both on account of his correct diagnosis and of the happy issue. I may add that this is the only case of cornual pregnancy which I have seen, although I have seen cases where it was very close to the uterus.

Dr. PARKE: In reply to the questions in regard to curetting, I would say that she gave a history of passing membranes, so I thought it best to clean out the uterus and see that there was no mass inside. Besides, at the Kensington Hospital for Women it is a routine procedure to curette and wash out the uterus in advance of doing an abdominal operation in the event that a hysterectomy may be necessary. Furthermore, just at that moment she was not in collapse; she had been in the hospital over night, and had in a measure recovered.

Two Cases of Genital Malformation: (1) *Retrohymeneal Atresia; Hæmatocolpos et Hæmatometra.* (2) *Vagina Duplex et Uterus Septus.*

BY J. M. FISHER, M.D.

(See page 38.)

DISCUSSION.

Dr. NOBLE: Cases of this kind, with hæmatometra and hæmatocolpos, are very rare, and I have seen but one illustration. This was in a young woman who was sent to me for supposed ovarian tumor. On examining, I could make out three loculi of an abdominal tumor. She was quite a young girl—not more than sixteen or seventeen—and she had not yet menstruated. I found that the hymen was intact and that the case was evidently one of retained menstrual blood, which had distended the vagina, the uterus, and both tubes. I operated by excising the hymen, washing out the vagina and uterus, and applying an occlusion pad. I did not use gauze packing because, in the absence of sepsis, an occlusive dressing seemed to me the best mode of managing the case. After excision of the hymen, the tumors, due to distension of the tubes, gradually disappeared; and I hoped that the tube might drain out and that, at the worst, she might later on need only a conservative operation upon the appendages.

This occurred several years ago, and I have never seen the patient since; but I heard that she has married, although she has had no

children. The supposition is that the fimbriated extremity of both appendages is closed by adhesion.

I have seen half a dozen cases of vagina duplex, and my observation bears out the fact that one vagina is larger than the other. The first, being the one in which copulation takes place, develops, while the second remains contracted as in the virginal condition. I have operated upon a number of these cases by excising the septum, and they have all done very well. I remember particularly one case where the septum, which had been partially torn in labor, was of great annoyance to the patient in her marital relations. I had to do quite an extensive plastic operation in order to restore it to a proper condition, so that she could cohabit without the extreme pain which she had hitherto experienced.

I have also seen a number of cases of double uteri, although I never performed any operation upon them. A number of these cases had consulted me for sterility.

Dr. NOBLE: I think that the operation done by Dr. Fisher is very interesting. He restored the uterus to a normal condition by resecting the septum. I, however, believe that one should first satisfy himself by palpation that there are not two uteri partly connected, for in that case he might open into the peritonæal cavity; but when a well-formed fundus can be made out, such an operation as Dr. Fisher's is admirable, and I believe that the chances are better in that case than they would be if the patient were allowed to become pregnant in one uterus.

I should like to know whether pregnancy has ever taken place after division of the septum.

Dr. DACOSTA: The worst case of hæmatometra that I have seen was not one of hæmatocolpos, for there was no vagina at all. It occurred in a young negress about sixteen years of age, who was brought to the hospital by her mother, with the statement that for several months she had excessive pain recurring every month. As was the custom among them she was put to bed and given hot drinks. Her mother finally noticed a tumor of the abdomen and then brought the girl to the hospital, in order to find out the cause of the trouble. Examination showed there was no vagina, but an unbroken surface from the urethra to the ring of the anus, and fluctuating body, reaching from the pubis up to about the level of the navel. The cervix uteri was found by rectal examination. She was operated a couple of days after admission to hospital ward. With a large straight sound in the urethra, and a finger in the bowel, an incision was made and by using knife

and scissors to cut, and fingers and dilators to tear, a canal wide enough for two fingers to enter was made over two inches long; then fluctuation could be faintly perceived, and a large trocar was pushed into the fluctuating mass, and a very large amount of thick, tarry fluid was removed. The uterus contracted promptly, and was washed out, first with antiseptic solution and afterwards with plain water. There were no bad symptoms following the operation. The cervix in this case was not like an ordinary cervix, but was a cylinder about one inch in diameter, with a wall a quarter of an inch thick surrounding it. The incision which I made was so large that the small plug which was first put in immediately tumbled out, and we had to use a larger one. One year afterwards the canal had not contracted materially.

I do not remember ever to have seen a double uterus and vagina divided exactly like Dr. Fisher's, but in one case which I saw the passage on one side of the vulva was so very small that I could not introduce even the smallest sized speculum, at the cervix uteri the canal was evenly divided. The septum reached from the vulva to the uterus. At first the double uterus was not perceptible; but as soon as the septum was severed, a large sized speculum could be put in, and then I could see the double uterus. No bad symptoms followed the operation, which was a simple one. The septum, about a line thick, was cut from vulva to uterus. It immediately retracted and did not need sutures.

The septum in uterus, about one-eighth inch thick, was cut through, and the uterus packed. In a short time the patient was discharged. The most notable thing in connection with this case is the remarkable change in the character of both her physical and moral symptoms which took place in the patient as a result of the operation. Before it she had been weak, anæmic, and thin, with a strong religious tendency, even having the feeling that she ought to go into a convent; when seen one year afterwards, she had gained fifteen or twenty pounds in weight, was in perfect health, and was engaged to be married. I have not seen her since that time.

Dr. FISHER: The most interesting feature of this case was the perfect development of the double vagina. The septum was quite loose, and if one had attempted to introduce a finger into the vagina with the eyes closed, the chances of getting it into one or the other compartment would have been about equal. The free border of the septum was about one-quarter of an inch in thickness; it extended down to the edge of the hymen and presented a straight line, which diminished in thickness from in front backward. There were two small elevations. The septum that divided the cavity of the uterus also became thinner from

below upward and was deficient near the fundus. Dr. Montgomery told me he thought that it was more of a uterus bipartis than a uterus sepsus. By bimanual examination I determined a common uterine fundus; and being certain, therefore, that it was not a double uterus throughout, I felt comparatively safe in making section of the septum.

I have not looked up the literature upon the subject in detail and do not know what are the chances of a woman becoming pregnant after an operation of this kind; but Dr. Wells, in the March number of the *American Journal of Obstetrics,* reports a number of cases of pregnancy in uterine malformations, and I think that it would be well for any who are interested in the subject to read that article. I myself did not read it with sufficient care to be able to quote any of the cases in particular.

Polyuria in Pregnancy.

By William Krusen, M.D.

(See page 42.)

Official Transactions.

Frank W. Talley, *Secretary.*

TRANSACTIONS OF THE CHICAGO GYNÆCOLOGICAL SOCIETY.

Stated Meeting, April 20, 1900.

The *President,* T. J. WATKINS, M.D., in the Chair.

Ectopic Pregnancies operated upon before Repture: The Significance of Intervillous Hæmorrhages in the Interruption of Ectopic Gestation.

BY C. E. MANIERRE, M.D., and MAXIMILIAN HERZOG, M.D.

(See page 27.)

DISCUSSION.

Dr. A. W. ABBOTT, of Minneapolis, Minn: I have been very much interested in the paper. I have noticed that in general the hæmorrhage almost always destroys the musculature of the tube, especially close to the fœtus. In all the sections which I have of tubes before rupture, that is quite marked. I have also noticed that the vessels of the peritonæum of the tube are very much enlarged in the neighborhood of the tubal pregnancy. While it has been said that the hæmorrhage is much more severe when rupture takes place below where the larger vessels are, I think, on the contrary, that the enlarged vessels are oftener on the top of the tube. I have noticed that repeatedly, and the vessels are so changed and large that they are distinctly visible to the naked eye. They form a perfect network if examined in the body before the circulation is interfered with.

I would endorse what the first speaker said in reference to early examinations of women. I remember mentioning that point in a paper I once read. I made the statement at the time that as so many cases of extra-uterine pregnancy occurred, every married woman who had a suspended menstruation should go to her physician and have an examination made. There are enough of these cases to make the condition a dangerous one, and I think that married women ought to be taught to go to the doctor in order to be examined just so soon as menstruations becomes suspended.

Dr. CHARLES S. BACON: I do not know that I can say anything on this interesting point brought out by Dr. Herzog. I am not unfamiliar with the idea that intravillous hæmorrhage is one cause of the death of the fœtus and is the cause of the interruption of pregnancy, but it is certainly not the only cause of the trouble.

One point brought out by Dr. Manierre I would like to speak a word about, as it has been brought up many times in the Society, that is, the question of diagnosis. The hope of always getting an exact diagnosis by the examination of the uterine decidua we have had to give up, and yet the importance of the examination of the uterine scrapings was shown, for example, in the second case the Doctor reported, where but for the lack of this diagnosis might have been made much sooner. I believe that in spite of the fact that the subject has been before the profession for so many years it is still too much neglected. The presence of the decidua with the absence of villi makes the diagnosis certain, and is therefore in doubtful cases always to be sought for. The decidua probably can be secured for examination in every case with no more danger than attends a thorough bimanual examination which has often produced rupture of the sac. Where curetting is resorted to to obtain a specimen of the decidua, it can generally be done without anesthesia. Of course, absence of the decidua from the uterus after a long continued discharge proves nothing.

Dr. J. CLARENCE WEBSTER: I have listened with great pleasure to these papers and I think Dr. Manierre is to be congratulated for his thorough working-up of the clinical side of his cases and for the success with which he treated them. He has referred to the question of diagnosis in the early months and to the necessity of early operation. I suppose that he will agree that the diagnosis in the early months may be classed in the same grade of difficulty as diagnosis in later months. In regard to the method of bimanual examination, I have never forgotten what Olshausen used to point out, in his clinics, that the most skilled hands may miss entirely any tubal swelling not too great in size, if it contained fluid under low tension. I have recently seen two very interesting cases in which very early tubal pregnancy was not diagnosed in the early weeks, though a careful anæsthetic examination was carried out. In one of them rupture occurred as a result of the manipulations, and the operation disclosed an ectopic gestation.

With regard to the second paper, I think it is a most admirable contribution, giving an important emphasis to one factor, namely, the

occurrence of hæmorrhage in the intervillous space. I would like to refer to an interesting case which I have had recently. There was a sudden pain on the left side three days before I saw the patient. She was sent to hospital, and a tubal swelling was found. She was operated on, and a tubal sac was found, the greatest diameter of which was about three-quarters of an inch. There was a small rupture and a very little blood lying in the utero-vesical pouch.. The case was one of ectopic pregnancy. The interior of the tube was a mass of fresh clotted blood. There was absolutely no fœtus to be found. That, at first sight, might lead to the supposition that the fœtus had been completely absorbed within three days. As I only received a microscopic section this morning, I have not been able to examine it very closely. Portions of the chorion frondosum show quite distinctly the findings described by Dr. Herzog, the degeneration of the villi and their epiplastic covering; fibrin and blood-crystals in the intervillous space. In all probability the hæmorrhage which occurred, causing the fresh blood in the tube, did not lead to the death of the fœtus, nor its disappearance, this being due to previous blood extravasation into the intervillous space, producing the changes referred to by Dr. Herzog.

Dr. STAHL: The large hæmorrhage was then secondary to the primary?

Dr. WEBSTER: Yes. I think Dr. Herzog is right in emphasizing this point, because it is rare that we get such early fresh specimens showing the results of slight hæmorrhages into the intervillous space.

In regard to the reason for the frequency of intervillous hæmorrhages, I think you will probably agree with me that it is probably due to the sinuses in the decidua being surrounded by such a small amount of connective tissue. Dr. Herzog has described the matting together of the fimbriæ of the tubal. In the early stages, that has been pointed out by me. A superficial compact layer may be produced by the matting of the plicæ which originally are very slender and generally contain a low embryonic form of connective tissue. The sinuses developing in this layer of the mucosa are not well protected, and it is therefore not difficult to understand how in conditions of increased intra-abdominal or blood-pressure there may be rupture. The study of ectopic gestation placentæ in later months shows the effect of hæmorrhages quite clearly. I do not suppose that anybody ever saw an ectopic placenta without changes of this kind, areas of degenerated villi surrounded by fibrin and a deposit of blood-crystals being common. I think that this is a very important point which Dr. Herzog has brought out.

Dr. HERZOG (closing the discussion): I am very much pleased to see that my short report has excited an interesting discussion. I have not gone into any other point but the one I wanted to bring out quite especially. I did not enter into the discussion of the cause or causes of intervillous or secondary hæmorrhages. Dr. Webster suggested the most important cause. The small, thin tissue bridges between the tubo-placental sinuses are easily destroyed. I think this destruction may be brought about by the syncytium which possesses marked phagocytic properties. I want to speak about another point mentioned in the discussion, *i.e.*, the microscopic diagnosis of membranes or shreds passed from the uterus during tubal pregnancy. It has been a contested question whether a uterine decidua is formed in ectopic gestation. Dr. Ries, one of your members, with others, claims that such a decidua is formed. I can confirm that such is the case. I have had the chance to examine quite a number of scrapings in such cases, because Dr. Henrotin always obtained them in his operations for ectopic pregnancy whenever possible. Occasionally you find a complete uterine decidua, showing beautifully the compacta and the spongiosa. At other times you find no decidua. I have had one case furnishing an instructive illustration. It was one of tubal pregnancy, in which both tubes and ovaries, as well as the uterus, were removed and I took the pains to make sections through the whole uterus. It contained no decidua, but a uterine mucous membrane of a fairly normal non-pregnant type. In one part of the uterus I found still adherent some decidua which had not been shed, but which had been separated by a hæmorrhage. It was greatly degenerated. So, very frequently, when those cases come into the hands of the operator or come to post-mortem, or are curetted, the decidua has disappeared and the non-pregnant mucosa has appeared in its place. Hence the erroneous claim could have been made that a uterine decidua is not formed at all in ectopic pregnancy.

Examination of the Sigmoid Colon.

BY A. W. ABBOTT, M.D., Minneapolis, Minn.

(See page 20.)

DISCUSSION.

Dr. FERNAND HENROTIN: I can endorse fully the thanks we owe to the Doctor for being permitted to hear him tell of the value of his instruments. At the same time, I am gratified to say that al-

though the Doctor has sent me a set of his instruments, I have not had the opportunity of using them. This may be due to my obtuse methods of diagnosis that I have not had more opportunities. These instruments are certainly of value under certain circumstances, but I believe that we can only reach a certain limited field of the bowel, although the Doctor's method looks feasible and in the hands of the proper operator it probably can be carried out. The Doctor has made experiments on cadavers for the purpose of determining as near as possible the exact length of the field which we can explore. The difficulty we meet has been the finding of the patient in whom it is a matter of importance to resort to these measures. I am positive that this work is a step in the right direction, and the instruments are an improvement over any instruments of the kind, especially those devised by Dr. Kelly. The advantages of going up the bowel beyond the limit of the rectum and sigmoid are very doubtful, even if we could by legerdemain or by skilful measures manage to put in stitches, as described by the Doctor. It strikes me that it might be difficult to determine the extent and character of certain diseases such as Dr. Abbott mentioned. Malignant diseases we can frequently determine the lower end of, but when we think of passing an instrument up eight or ten inches so that we can get the upper limit and recognize it, I may be mistaken, but I think we will find usually that the pathologic condition is such that it will not only be difficult but dangerous as well to find the upper limit. It is, however, considerable to be able to know that we can determine the characteristics of these diseases by sight with the use of these instruments. As regards the extent of usefulness of these instruments, I am not ready to give an opinion, as I have not had an opportunity to determine, and I may be a little wedded to the old methods without instrumentation.. I have the instruments and I hope some day to have an opportunity to verify some of the Doctor's hopes by my own cases.

Dr. CHARLES S. BACON: I suppose that there is not one nurse in twenty in this city who does not believe that she passes the tube into the colon when she gives a high enema, and the nurses generally get their teaching from the physician. I suppose that there are many physicians who believe the same thing. It is not my intention to discuss how this belief has arisen and become so general but I simply allude to the well-known fact. Such observations as Dr. Abbott's are very good to correct this opinion.

The advice of Dr. Mathews, who gave us a paper last year, to rely mainly on the finger for the examination of the rectum, is to some

extent in opposition to the advice of the author this evening. I believe that none of us will dispute that ocular examination added to digital examination is very important. Besides, we have cases where examination by the finger is dangerous, as in specific ulcers; therefore the popularizing of a method like this for examination is a matter of a good deal of importance. We are certainly much indebted to Dr. Abbott for bringing up such a paper.

Dr. T. J. WATKIN: I am reminded of two cases where Dr. Abbott's instruments would have been of great service. Both were cases of bowel obstruction due to carcinoma of the descending colon located just above the brim of the pelvis. With the aid of the instruments exhibited it seems quite possible that the obstruction might have been located and the patient relieved by lumbar colotomy which would have been a simple procedure compared to the abdominal section which was made. The specula will be of service in the examination of cases of recto-vaginal fistulæ.

Dr. ABBOTT (closing the discussion): The object of my paper was the discussion of the anatomical facts in reference to the examination of the descending colon. The use of the instruments is simply incidental. I have been using them for a long time, and they have been very useful to me, especially in cases such as I cited. I have used them in many cases which I did not mention, as that was not the object of the paper. I recall one case of stricture of the bowel about eight inches up in which I found that there was a stricture less than one-half inch in diameter and one-half inch long, and the Doctor very intelligently and persistently dilated, the patient getting well. There have been cases of ulceration of the bowel high up which I have seen and the physicians have treated them successfully by direct application to the ulcerated spots. I would endorse what Dr. Henrotin says in reference to the use of such instruments, as it is only occasionally that we have use for them, but when we do want them we want them badly. In diseases lower down an ordinary Sims speculum can be used to the best advantage. If a table is used that will tip the head down and the body up, you will be absolutely surprised to see the view which you can obtain of the lower sigmoid with these instruments.

Official Transactions.

C. S. BACON, *Editor of Society.*

ABSTRACTS.

GYNÆCOLOGY.

UNITED STATES.

Cervical Flexions: Their Importance and the Means of curing Them.

T. J. BELL (*Annals of Gyn. and Ped.*, January, 1900) says that the frequency and importance of cervical flexions are underestimated, and the necessity for their correction is not appreciated. Flexion of the cervix is perhaps the most common cause of all the displacements and dysmenorrhœa in unmarried or sterile women. Extreme anteversion or extreme retroversion of the body of the uterus cannot take place without upward or downward displacement owing to its position in the pelvis. The cervix, having a wider range, may be flexed anteriorly or posteriorly without disturbing the normal range of the corpus.

Lack of proper development is the cause of cervical flexion in nearly all cases. In girls who are forced to work hard at the time of puberty, or who by tight lacing force the infantile uterus down into the pelvis before it is fully developed, the longitudinal fibers develop at the expense of the circular, resulting in a long, conical, pendulous cervix, and flexion is apt to take place at the junction of the cervix with the corpus, caused by the dropping forward of this elongated cervix. Obstructive dysmenorrhœa, often followed by leucorrhœa, rectal tenesmus, vesical irritability and finally failure in the general health, ensue. The method usually adopted by the writer for the relief of these cases is to seize the lower end of the cervix with a volsella, and draw it sharply in the opposite direction to which it is bent, thus reducing the sharp angle to a curve. A small olive-tipped sound is gently introduced through the internal os, followed by a dilator, with which an opening from one-fourth to one-half an inch in diameter is secured. Usually this dilatation once or twice a week between the menstrual periods will be sufficient. In married women a thick piece of gauze or a little wire pessary, invented by Outerbridge, may be placed in the cervical canal and retained until the next treatment. This tends to the development of the circular muscular fibers. It is rarely necessary to incise the cervix.

Where there is retroversion and prolapse of the uterus, this must always be corrected before treating the cervical flexion.

Chronic Inversion of the Uterus: Spontaneous Reduction after Three Years.

A. F. JONAS (*Jour. of the Amer. Med. As.*, January 6, 1900) says that inversion of the uterus is a rare accident and, while traction on the cord is often cited as a principal factor, it is undoubtedly always preceded by relaxation of a portion or the whole of the uterus. Crampton thinks that paresis of some part of the uterine muscle, caused by either too frequent child bearing, tedious labor, too rapid delivery or emotional excitement, is the underlying cause. It is a neurosis in its inception, and is facilitated by traction on the cord, but traction alone will not cause inversion, but may induce prolapse or procidentia. Immediate replacement can usually be effected, but if the reduction is not accomplished and the patient survives shock, hæmorrhage and sepsis, the inversion becomes chronic. A woman of 36 years of age was admitted to the Omaha Hospital with a history of frequent and profuse menstruation since the birth of her last child three years before. She had borne nine children besides two miscarriages. Examination per vaginam revealed a round growth the size of an orange which was considered an extruding intra-uterine polypoid. Hæmorrhage was so profuse that she was put to bed for a week to regain strength. Then under chloroform it was discovered by rectal and abdominal examination that there was no fundus uteri in the pelvic cavity, and that the case was inversion of the uterus of three years' standing. A volsellum forceps was applied to each of the four quadrants of the cervix and pulled steadily downward while firm upward pressure was made on the fundus, but no reduction could be made. An attempt was made to dilate the cervix at the constricting ring, but was only partly successful. The hæmorrhage was so alarming that the velvety mucous covering of the inverted uterus was entirely removed with a sharp Volkmann spoon, leaving a fibrous surface that did not bleed. After removing the volsella and thorough irrigation the uterus was pushed upward and the vagina packed with iodoform gauze, hoping by continuous pressure to make a gradual reduction. The packing was renewed every two days but after two weeks of painful effort no progress had been made and the patient went home. A few months ago the writer learned that the woman had since passed through a normal confinement and was well. Not only had spontaneous reduction taken place, but a complete renewal of both the mucosa and sub-mucosa lining the uterus. This spontaneous reduction supports Tyler Smith's view that the constricting ring sometimes relaxes and Nature takes advantage

of this to obtain reduction. The necessarily complete restoration of the mucous lining of the uterine cavity sets at naught the objection sometimes made against curettement that it destroys the normal function of the uterine lining for all time.

Dame Nature's Vaginal Hysterectomy.

CALVIN SKINNER (*Colo. Med. Jour.*, April, 1900) reports a case occurring more than forty years ago, when even surgeons were doing very little with abdominal surgery. Mrs. C. was attended (?) during her first confinement by a quack, after three days of pain with no delivery the attendant left her "to go for his instruments," and never returned. A doctor was called in, who, with some difficulty, delivered a large dead child with forceps. Three weeks later Mrs. C.'s mother called on the writer and begged him to go to her daughter who was not doing well. On seeing the patient the next day she was apparently dying, emaciated, almost bloodless, pulse hardly perceptible. Stimulants were used and she rallied. The mother then produced in a pan "something" that the patient had passed from her vagina that morning. It was the entire uterus, with ragged shreds of ligaments dangling from the sides. On examining the patient a great amount of sanious pus was found coming from the vagina. It must be remembered that this was before the days of antiseptics, and the patient was simply made as clean as possible, and built up with food and stimulants. The walls of the vagina closed in upon each other and firmly united, leaving only a shallow cul-de-sac. The patient's health was good until the time of her death from typhoid fever three years later.

Intra-uterine Implantation of the Ovary.

A. PALMER DUDLEY (*The Post-Graduate*, April, 1900) reports a case of an unmarried prostitute suffering from double pyosalpinx gonorrhœal origin. The urine contained albumin, pus, hyaline and fine granular casts. A short time before entering the hospital she had had a two-months' miscarriage, but menstruation had been again established, excessive and attended by great pain. Laparotomy was performed after the uterus had been thoroughly curetted and washed out with a solution of bichloride of mercury 1 to 1000. The double pyosalpinx was removed, leaving the right ovary, which was

healthy, suspended by its ligament. The uterus was lifted through the incision and the fundus incised into the uterine cavity, and a small portion of the inner surface of the fundus was cut away. The ovary was cut from the ligament and the portion which had rested against the pyosalpinx cut away by a V-shaped incision. The rest of the ovary was washed in warm normal salt solution, doubled upon itself and fastened within the incision in the uterus by fine silk sutures, the fundus was closed over it and the uterus dropped back into the pelvis. The cul-de-sac was opened and gauze placed for drainage in case of accident. The abdominal wound was closed. Nurses were in constant attendance night and day, to watch for the discharge of the ovary or any portion of structure by the vagina, but nothing came away. Three weeks after the operation she had a moderate flow of blood from the vagina for three days with a marked menstrual odor. The patient left the hospital in a month and when seen a month later had menstruated once more without pain. The uterus was normal in size and position, not tender. Owing to the woman's character she is not likely to become pregnant, but is in perfect health.

The Palliative Treatment of Carcinoma Uteri.

HERMAN J. BOLDT (*The Post-Graduate,* April, 1900) says that unfortunately many cases of cancer of the uterus come under the observation of the surgeon too late for a radical operation, then the symptomatic or palliative treatment demands consideration. Hæmorrhage, suppuration and pain, together or singly, are the urgent symptoms. In hard cervical neoplasms, where the discharge is moderate and not offensive, douching with mild antiseptic solutions will keep the patient comfortable until pain from pressure begins, when narcotics must be used. At first ⅛ gr. morphia with 10 grs. bromide potassium and 10 grs. of either sulfonal or trional given in hot milk or chocolate at bedtime will usually control the pain. From 20 to 40 drops t. i. d. of bromide of arsenic and gold seems to check the progress of the disease and benefit the patient. Constipation and hæmorrhoids may be relieved by enæmatas containing olive oil or cotton-seed oil. Cathartics should be avoided if possible. Cascara sagrada usually acts well.

For the abatement of vesical symptoms tincture of bryonia in six drop doses every six hours is good. If cystitis is present urotropin in one gramme doses every eight hours will be found beneficial.

Where the discharge is profuse and annoying a douche of normal

saline solution is used daily, then the patient is instructed to introduce a strip of nosophen gauze through the vulva, tamponing the genital canal as high as possible. When the patient can afford it, an injection of four ounces of a three per cent. antinosin solution should follow the douche. The hips should be elevated and the injection retained for some time. Where a fistula exists plenty of stearate of zinc about the vulva and the inner parts of the thighs will prevent excoriation.

Various forms of local or quasi-operative treatment have been recommended, but only two or three which have stood the test of time need to be mentioned. The most common treatment is the use of small pledgets of absorbent cotton saturated with a 30 to 50 per cent. solution of chloride of zinc, wrung out dry and snugly packed into the cavity made by previously curetting out as much as possible of the cancerous tissue. Other tampons saturated with bicarbonate of soda solution, or plain bicarbonate of soda itself, held in by a dry tampon is used to relieve the pain, but usually morphine must be used liberally. After two days the retaining tampon is removed and douches of bicarbonate of soda solution given, and another dry tampon introduced. After four days the chloride of zinc tampons can be removed with forceps, but force must never be used. After the slough has separated the granulating surface may be dusted with nosophen powder, or painted with strong carbolic acid or iodine. The bromine treatment belongs to the same class. J. Schramm introduces a needle into the neoplasm to a point where it meets resistance, and slowly injects, a few drops at a time, two grammes of the following solution: Hydrarg. bichlor., 0.25; nat. chlorate, 2.50; aq. dest., 50.0. This is repeated three times a week.

The writer has practiced curetting with a heavy scoop, removing all cancerous tissue to the hard, infiltrated zone. Then the cavity is packed tightly with 3 per cent. nosophen gauze, allowing the tampon to remain *in situ* 48 hours.

But the best results follow the use of the actual cautery, the method described by Dr. Byrne being the best. The *dome* electrode, heated to a dull red heat, is vigorously used at the site of the neoplasm, charring it thoroughly and deeply. The radiating heat destroys the cancerous elements to a depth impossible to obtain as satisfactorily with any other method. The eschars are usually expelled in about two weeks and then local treatment, preferably the dry method, may be begun. No pain follows this cauterization, and the cancer symptoms remain absent for a long time unless the disease had encroached upon the bladder or rectum.

Electricity in the Treatment of Menstrual Derangements.

PETER M. CAMPBELL (*The Phys. and Surg.*, May, 1900) says that in amenorrhœa of young girls the static current is the best method of administering electricity, as it usually is satisfactory in its results, and can be used without disrobing the patient. A warm spray with light sparks is given over the sacral and pelvic regions for from ten to twenty minutes three times a week for two or three months. Good results are also obtaned by the use of the constant galvanic current. The positive electrode should contain at least thirty square inches of surface and be applied over the sacrum and a large negative electrode should be placed over the lower abdominal region. The current may be used for ten minutes, turning it on and off gradually. This may be followed by the induced current from the primary coil of a faradic battery for five minutes. Cases that fail to respond may receive the intrauterine method of treatment. A flexible electrode attached to the negative pole is passed into the uterus, and a bifurcated cord from the positive pole passes to two large electrodes, one over the sacrum, the other over the abdomen. The electricity is used as before.

Menorrhagia and dysmenorrhœa may be treated by the static current as above, or by the constant current. Where the pain is due to endometritis the treatment must be intrauterine.

Where the menorrhagia or metrorrhagia is due to endometritis, retained partial products of conception, or a neoplasm, it may be treated by the amalgam-zinc method. A zinc olive is cleansed with muriatic acid, then covered with metallic mercury and inserted to the fundus of the uterus. The current is turned on for four minutes, then the electrode is withdrawn the length of its active surface and the process repeated until the bulb touches the internal os. The primary faradic current should follow for five minutes. This method is antiseptic, depletes the uterine vessels, is a sedative to the nerves of the uterine mucosa, sets up a healthy metabolism and invigorates the uterine appendages.

The Present Status of Operations for Cancerous Uteri.

HOWARD A. KELLY (*The Jour. of Amer. Med. As.*, May 19, 1900) says that there is a temptation in the early stages of cancer of the cervix or of the body of the uterus to do a lesser operation than removal of the entire organ, but such partial operations are never justifiable as has unfortunately been proven by the results. Not only should the uterus be removed, but in all cases of cancer of the body the uterine tubes as well. The vaginal tissue to the extent of at least 2 cm. must be cut

away in cases of cervical cancer. Anteriorly the disease often involves the base of the bladder before it has extended far in any other direction; here good surgery will sacrifice and repair the entire affected vesical area, leaving it sticking to the cervix uteri.

Cancer of the cervix usually extends by direct involvement of the contiguous tissue, so that the operation should extend well out into sound tissue.

There is a widespread conviction that the radical operation is of no lasting benefit, and that all cases sooner or later die of a return of the disease. In answering this the writer gives the statistics of 103 operations, in all of which the presence of the disease was confirmed by microscopical examination. Well, without relapse, Jan. 1, 1900—squamous-celled carcinoma of the cervix, 61 cases, 13 living, or 21 per cent.; adenocarcinoma of the cervix, 12 cases, 2 living, or 16 per cent.; adenocarcinoma of the body, 30 cases, 19 living, or 63 per cent. The periods of time since operation vary from eleven months to six years. Seventeen of these cases have been without recurrence in periods of from three to five years, and 8 cases have been well for more than five years. If a far smaller percentage had been saved the operation would be justifiable. The method of operation must be considered. 1. The old plan of skinning or shelling out the bare uterus is of all methods the most liable to be followed by recurrence. 2. The ureters *must* be catheterized to enable the operator to work boldly in the parametric tissue. 3. The disease must be given a wide berth by ligating far out in the parametrium, if necessary, dissecting out the ureters, and on the vaginal side by cutting far below the manifestly affected area. Any procedure based on these principles will give better results than have been obtained. Clark's operation should receive careful consideration. 4. O. Werder of Pittsburg has devised an admirable operation consisting of a combined abdominal and vaginal enucleation, opening the abdomen, ligating and freeing the uterus on all sides, and the upper part of the vagina. The removal is effected through the vagina by pulling the cervix well down to the vulva, and cutting through the vagina at the lower limit of its detachment. Since last November eleven cases have been operated upon by the writer in the following manner: First, thorough curettage with a serrated spoon curette; division of the vagina on all sides an inch below the diseased area; separation of the vagina from the bladder up to the vesico-uterine peritoneal fold, which is widely opened; then a wide opening of the cul-de-sac. The uterus is brought out through the anterior opening by pushing back the cervix and climbing up the anterior face of the uterus to the fundus with stout-toothed forceps. The

peritonæum posteriorly is protected by a loose gauze pack. The uterus is bisected from the fundus through the cervix and the attached vagina with scalpel and scissors. The medium surface of each half is grasped by a strong-toothed forceps. The most affected half is allowed to retract into the vagina, and the other half is bisected horizontally at the cervical junction, cutting from the median cut surface out into the broad ligament, exposing and clamping the uterine artery. The upper quadrant is pulled until the round ligament and ovarian vessels come into view and are clamped, then it is removed. The upper quadrant of the opposite side is removed in the same way. The uterine vessels are ligated, and the ovaries and tubes removed after ligating the ovarian vessels near the pelvic brim. The least affected side of the cervix is now removed, tying the vessels as exposed and guarding the ureter. The removal of the remaining and most affected quadrant now remains to be performed, the removal of the other portions having left a better field for operation. It is a question whether ligature or cautery best enters the deeper tissues. If the ureter is involved it must be cut off and reanastomosed into the base of the bladder farther back. Then the enucleation may be extended out to the pelvic wall. After the enucleation the wound is closed in the middle and drawn down on both sides. In simple cases the peritonæum is closed without a drain.

Great Britain.

The Varieties of Uterine Neoplasms and Their Relative Frequency.

W. Roger Williams (*Bristol Medico-Chirurgical Jour.*, December, 1899) says that uterine tumors are of such frequent occurrence that they are of great interest to surgeons and pathologists, and some statistical facts are not amiss. Of 9227 women with primary neoplasms consecutively under treatment at four large London hospitals, the uterus was the organ affected in 28.7 per cent.; the mammæ in 26 per cent., the ovaries in 8.7 per cent., and the stomach in 1.4 per cent.

Of 13,971 neoplasms analyzed by Gurlt, among patients at the leading Vienna hospitals, 29 per cent. originated from the uterus. But as this includes both sexes the percentage does not correspond to the above. Of these neoplasms, 9898 were cancers; of 7020 of these were in women, the uterus being the site in 3449 or 49 per cent.

Schroeder's analysis of 19,666 cases of cancer in women shows that 33.3 per cent. were uterine, and of 8746 similar cases tabulated by Simpson, 34.3 per cent. were uterine.

In the 28.7 per cent., or 2649 cases of uterine neoplasms studied by the writer, the relative frequency of the occurrence of the different varieties of uterine tumor was as follows: Cancer, 1571 cases; sarcoma, 2 cases; myoma, 883 cases; polypus (non-myomatous) 191 cases; cystoma, 2 cases.

The proneness of the different organs to evolve the various neoplasms is extraordinarily variable. In some organs certain neoplasms rarely arise, as, for example, cysts in the uterus or stomach; while cysts constitute 93.54 per cent. of ovarian neoplasms. These differences in morbid proclivity form a most interesting branch in the study of neoplastic pathogony, and probably the solution of the problem of the origin of neoplasms centers there. Biological peculiarities inherent to the tissues of the affected parts must account for these vagaries. Ribbert has shown that cancer is prone to arise from epithelia in which active mitotic changes are normally present, or in which such changes manifest themselves under certain conditions, as in the mammæ. From this would follow that cancers are most prone to arise in organs where cells still capable of growth and development are most found.

No part of the body undergoes so many post-embryonic developmental changes as the uterus; its reparative powers are also remarkable, from which we may conclude that it is rich in cells retaining much of their embryonic capabilities. The behavior of the uterus, as compared with the tube, under the stimulus of pregnancy, illustrates this. When the fertilized ovum lodges in the uterine cavity, the walls of the latter grow rapidly, adapting themselves to the growth and requirements of the embryo; but when the ovum is arrested in the tube, the growth of that structure soon fails to keep pace with the growth of the embryo, and rupture occurs. Inherent peculiarities of this kind probably determine the tendency of the uterus to originate certain neoplasms, and the proclivity of certain regions of the uterus to outbreaks may probably be similarly explained.

Excessive Hæmorrhage from a Varicocele of the Labia Majora.

J. E. ROSENSTEIN (*British Med. Jour.*, January 13, 1900) was called to see a young married woman, four and a half months pregnant, who had had a sudden and severe hæmorrhage while stooping to remove her shoe. Examination showed the blood still flowing from a rent in the left labium majus. The edges were secured and a catgut ligature applied. A large network of veins surrounded the upper third of the vulva in a crescent shape, the points extending downward into the

labia majora. The patient was a very healthy woman with no heart trouble and no trace of varicose veins elsewhere.

Strangulation of Intestine by Fallopian Tube.

P. CLENNELL FENWICK (*Ibid.*) reports a case of a woman, aged 52, who was admitted to Christchurch Hospital, New Zealand, with fæcal vomiting and extreme abdominal distension. The patient had vomited continuously for three days and was exhausted. In half an hour after admission the abdomen was opened and several feet of swollen, purple small intestine protruded, which could not be replaced, nor could the hand enter the abdomen. Several pints of liquid fæces were evacuated by a linear incision in the intestine. Exploration of the pelvis revealed a tight band encircling a mass of small intestine. This band was divided between two ligatures and the black mass of several feet of intestine was liberated. The divided band proved to be the left Fallopian tube and ovary, the latter being swollen and purple. The distention of another section of intestine was relieved by the aspirating needle. There were no other constrictions and the intestines were returned to place. There was much shock but the patient rallied and only vomited once. The next day the patient passed large quantities of gas, but on the third day she died from exhaustion and heart failure. Post-mortem examination found the intestines empty and no constriction, there was no sloughing and both incisions in the intestines were healthy and healing.

Retention of Menstrual Blood from Atresia of the Vagina.

CHAS. J. CULLINGWORTH (*Ibid.*) reports three cases. The first was a single woman, aged 21, who had never menstruated, nor had any pain until the twelve months before admission to the hospital. Since then she had had "bearing-down pains" five or six days at monthly intervals, and in about five months began to notice abdominal enlargement which had increased. Her general health was good; the bowels and kidneys normal in action. A tumor was found reaching to an inch above the umbilicus, elastic and not tender. The vulva and surrounding parts bulged downwards and between the labia minora was a tense membrane, entirely closing the vaginal orifice. The anterior wall of the rectum was pushed backward by a globular swelling. Under an anæsthetic an incision an inch and a half long was made through the occluding membrane. Three pints of viscid, chocolate-colored fluid

flowed out without any pressure being applied. The vaginal walls were thickened and showed no rugæ. The flow continued slightly for five days, the pulse and temperature remaining normal. A glass plug was introduced and kept in place by a T-bandage. There was a considerable flow of serum each time the plug was removed. Recovery was uninterrupted and menstruation regularly established.

The second case was an imbecile, fourteen years old, who had had two attacks of severe pain lasting from two to three days at monthly intervals. The genitals were normal, except that there was no vaginal opening. A recto-abdominal examination revealed a fluctuating mass the size of an orange. An incision was made so as to admit one finger and about five ounces of thick, dark fluid escaped. A glass plug was introduced after a week but caused pain and disturbance. The patient was not intelligent enough to understand that dressings must be kept in place, and the insertion of the glass plug several times a day to keep the opening from closing was practised. The vagina was small and imperfectly developed.

The third case was a girl twenty years old, had never menstruated or had any discomfort, and sought advice only at the request of her friends. An ill-defined tumor about the size of a child's head could be felt through the abdominal wall and more distinctly per rectum. There was no bulging of the external genitals. The vaginal orifice was closed by a thick membrane. After this was incised twenty-three ounces of dark fluid flowed slowly out. The discharge continued for several days. The absence of pain or discomfort rendered this case unusual.

Up to comparatively recent times these operations were often followed by fatal sepsis. The reason was found in the remaining thickened blood, which offered the best possible medium for infection, but now, under strict asepsis, a rise of temperature is rare. The slow escape of the blood is a matter of importance. In some instances the Fallopian tubes have been closed at their abdominal ends, and distended with blood, and owing to the sudden alteration in the relation of parts due to the rapid emptying of the main accumulation of retained blood, one of these tubes has burst during the operation, discharging its contents into the abdominal cavity with disastrous results. The slow evacuation of the fluid will guard against this and also prevents an inrush of air into the vagina.

Great stress is laid on the fact that no irrigation of the vagina is practised. Thus no air or pathogenic germs can be introduced, and there seems no necessity for disinfecting a cavity known to be aseptic

up to the moment of opening. Absorbent pads are bound tightly over the vagina and frequently changed. A glass or hard rubber plug was introduced as soon as all colored discharge ceased. This was ordered to be worn at least some portion of the day for a year.

Some Points in the Natural History of Uterine Fibroids.

F. H. CHAMPNEYS (*The Lancet*, January 20, 1900) from statistics gathered from St. Bartholomew's Hospital during the period of 1885-1899, when 959,217 women were treated as out-patients, endeavors to formulate some facts as to the frequency of uterine fibroids, how much of a menace to life they really are, and the expediency and results of operation. During this period there were 1198 post-mortem examinations on women on or over 30 years of age. Fibroids were found in 9.4 per cent of these. But in several cases of death occurring after operations for fibroids no post-mortem examination was allowed. It is also probable that in many patients fibroids existed but were not discovered, no gynæcological examination being called for. In only three cases did fibroids cause death apart from operation, while the mortality from operation was 17 per cent. The symptoms caused by fibroids are (1) weight and pressure. Pressure on the nerves may cause neuralgia; on the veins varicosity, but this is rare in non-malignant growths; on the bladder or ureters may cause painful or frequent micturition, even retention, cystitis and hydronephrosis, but these last symptoms are unusual; on the rectum may cause painful defecation. (2) Hæmorrhage. A perpetually recurring loss of blood injures the health and adds to the risk from intercurrent diseases, but fibroids rarely cause death directly from hæmorrhage. (3) Pain, including dysmenorrhœa. The cause is almost certainly painful uterine contractions. (4) Catarrh. This, sometimes very great, is probably due to endometritis of the body of the uterus.

There is a tendency nowadays to remove fibroids more freely, and to exaggerate their dangers as a justification. The exceedingly rare occurrence of malignant degeneration is pressed into service as an excuse. This is much to be deprecated. Where hæmorrhage or pain or both render life a burden the dangers of an operation may be explained to the patient and she be allowed her choice. A comparatively small fibroid impacted in the pelvis and causing retention of urine must be operated on at once unless it can be pushed up into the abdomen. Rapid growth accompanied by severe hæmorrhage justifies operation. Cystic fibroids should be removed. Fibroids causing no symptoms and

exposing the patient to no risks, especially in elderly women, should not be removed. A death from such an operation is worse than an accident. In any case, to be justifiable, the advantages to be gained should decidedly outweigh the risks of the operation.

Removal of a Submucous Fibroid by Section of the Uterus.

J. BRAITHWAITE (*Ibid,* January 27, 1900) reports a case of a woman, 41 years old, who suffered from exhausting hæmorrhages. She had never borne a child and the cervix was unusually rigid. It was partially dilated by Reid's screw dilator under ether, and a small fibroid was discovered near the fundus. It was impossible to remove it even *morcellement* owing to the rigid cervix and a small vagina. The abdomen was opened and a central incision made in the anterior wall of the uterus. The fibroid was turned out of the uterine cavity, with its mucous covering entire, and removed. The wounds in the uterine and abdominal walls were closed as usual, and a tube passed from the vagina to the uterus for drainage. Convalescence was uninterrupted. This is the first case in England of what might be termed Cæsarean section for the removal of a fibroid.

OBSTETRICS.

UNITED STATES.

A Cæsarean Section.

JOHN A. GRAFFT (*Cincinnati Lancet-Clinic,* January 13, 1900) was called in consultation to a primipara, who, on examination, was found to have a transverse pelvic diameter of only three inches, while the antero-posterior diameter was one and three-quarter inches. The patient was quickly removed to a hospital and prepared for a Cæsarean section, which was performed under chloroform. The incision was made one inch to the right of the median line. After the uterus was exposed the peritonæal cavity was carefully packed and the uterus incised. A living ten-pound boy was extracted. The uterine incision was closed with silk sutures, the ovaries ligated and removed and the abdominal wound closed. There was but little shock and both mother and child did well, the mother nursing the child after the second day.

The Surgical Treatment of Acute Puerperal Sepsis, with Special Reference to Hysterectomy.

HIRAM N. VINEBERG (*The Amer. Jour. of the Med. Sciences,* February, 1900) defines "acute" puerperal sepsis as an infection that takes place either shortly before, during, or immediately after labor, manifesting itself by symptoms during the first week of the puerperium, which symptoms persist, with variable severity, until the disease ends in death, a cure, or passes into a chronic state.

It has been agreed that when once general infection has occurred it is worse than useless to remove the uterus and adnexa with the hope of arresting it, and that intervention must be instituted before the infection becomes systematic, but cases of puerperal sepsis have been reported in which pathogenic germs were found in the blood, and yet the patient recovered.

When called to a case of acute puerperal infection, a most thorough examination should be made to ascertain, if possible, the point of entrance of the septic material. If the uterus is fairly well contracted, and there is a wound in the perinæum, vagina, or cervix, the uterine cavity is left undisturbed and the wounded infected area treated by antiseptic irrigation and drainage, as any other septic wound would be. If there are signs of uterine involvement, a large flabby uterus with placental or decidual residue, or a uterine discharge with a fœtid odor, the uterus must be subjected to a thorough curettage. Two large rubber catheters are introduced and left *in situ;* through these the uterus can be frequently irrigated without carrying in infection from the vagina. Once in twenty-four hours they should be removed and cleansed and reintroduced with a bivalve speculum. In 95 per cent. of the cases of puerperal sepsis nowadays this treatment will effect a cure if faithfully carried out.

Where these measures are not efficacious in arresting the progress of the infection as evidenced by the pulse, temperature, general condition, and sometimes local signs, it is a justifiable and proper course to open the abdomen and be guided by the conditions present as to the further operative interference necessary. In most cases total hysterectomy will be found to be indicated.

It is the cases of highly virulent and rapidly fatal forms of septic peritonitis that are perplexing, for one hesitates to resort at once to such a radical measure as hysterectomy,and yet a delay of even a few hours may be fatal.

In these severe cases, where an operation is performed, it is a good plan to drain from above and below.

When large collections of pus form and are so situated that they can be reached by either a vaginal incision or by one above Poupart's ligament, no time should be lost in operating. Where they are differently situated judicious delay is advisable in the hope that the pus may be evacuated without soiling the general peritonæum. Such a course gives the patient a chance of recovery with the conservation of the sexual organs.

Prophylaxis in Gynæcology and Obstetrics.

JAMES CLIFTON EDGAR (*Medical News*, February 3, 1900) says that a large proportion of cases that apply to the gynæcologist for relief of crippled pelvic organs owe their invalid condition to mismanagement or avoidable accidents of the pregnant, parturient, or lying-in states.

During pregnancy the prevention of constipation, the proper treatment of anæmia, moderate exercise in the open air and suitable clothing, in short, a good hygiene is of prophylactic importance in two ways: (*a*) By providing healthy blood, the best of germicides, and thus forestalling or minimizing the effects of possible septic infection. (*b*) By increasing muscular and general nutrition, factors of importance in the prevention of subsequent subinvolution. Every pregnant woman should place herself under the care of her physician, and by following his directions keep herself in a healthy condition. One thing should be emphasized in all cases; the avoidance of everything which increases intrapelvic pressure and resulting pelvic congestion. A mixed diet sufficient in quantity to meet the appetite of the patient is ordinarily the best, except in morbid condition, which must be dealt with individually.

During labor much may be done to prevent subsequent pelvic troubles. (*a*) Limiting the duration of labor. Vesicovaginal fistula is an outcome of protracted labor, and may be prevented by the timely use of forceps. Too prolonged efforts to retard the delivery of the head in order to prevent laceration of the perinæum may give rise to permanent relaxation of the muscular structures of the pelvic floor.

(*b*) The immediate repair of lacerations which endanger the muscular structures of the *pelvic floor* is important. And a mere external inspection is not sufficient to determine the presence or gravity of such lacerations. Deep muscular tears may exist without any external sign. These repairs must always be made with careful anti-

septic precautions. Cervical tears need not be immediately repaired unless there is hæmorrhage.

(*c*) Rigid attention to asepsis and antisepsis during labor will decrease the number of cases of chronic uterine and periuterine inflammations.

During the puerperium the most important subject is the prevention of subinvolution. Strychnine administered in the latter part of pregnancy and during the puerperium tends to secure involution. After the first twenty-four hours following labor the doctor and nurse should insist upon a "rotation of the patient" during the entire puerperium; that is the patient's position in bed during a given twenty-four hours should be equally divided between the dorsal, abdominal, and right and left lateral postures. Incomplete bladder or bowel evacuation may be prevented by permitting the patient to sit upon a vessel placed in the bed, or upon a commode at the side of the bed. This also favors uterine drainage.

Getting up too soon must be avoided. Where there is sagging of the levator ani muscle, a binder made to encircle the pelvis and lower abdomen at a level with the crests of the ilia, and with a strap of the same material tightly drawn between the thighs and pinned to the binder. Corset lacing down the front or back secures a snug fitting of the binder. The use of this binder may be continued for three months. It lessens the danger of displacements of the pelvic organs, supports the pelvic floor, assists in the union of lacerations, prevents pelvic congestion and adds greatly to the feeling of comfort and security.

An Unique Case in Obstetrics.

FREDERICK H. PARKER (*Medical News,* March 10, 1900) attended a patient in her first confinement in April, 1897. Everything was normal and recovery rapid. Five months later she feared that she was pregnant, as she had missed a monthly period after two regular menstruations since the birth of the child. She was told that as she was nursing it might be a simple irregularity, and some months later she said that menstruation had returned profusely after an interval of between two and three months. She became pregnant in the spring of 1899, and late in December her husband summoned the writer with the information that the woman was having backache and labor pains, and that "two small cords had been hanging outside for twenty-four hours." Expecting to find a prolapsed funis, it was a surprise to find two little legs, each the size of a small lead-pencil, presenting, with the cervix half dilated

and the membranes intact. The skin and skeleton of a fœtus about six inches long were readily extracted, a shrivelled umbilical cord being attached. The viscera and brain had disappeared and the fœtus looked as if it had been put through a clothes-wringer. Labor did not come on for some hours, but the following day a healthy infant, weighing ten pounds, was delivered. On examining the secundines there was nothing to indicate a placenta, excepting a portion of the sac of the infant, about four inches in diameter, which was thickened to one-eighth of an inch. The woman made an uneventful recovery.

Douglas' Cul-de-sac lacerated during Labor.

STEPHEN P. TRUAX (*The Post-Graduate*, April, 1900) was called to see a patient in labor with her twelfth child. The third and eleventh pregnancies had miscarried and the tenth had been the instrumental delivery of a child which had been dead two weeks. The other labors were normal. During the later months of the tenth and the present pregnancies she had revolted against food, but had used lager beer freely, although not to intoxication. The general health of herself and husband was good.

The woman was suffering intense second-stage pains every two minutes. The position was R. O. A. cervix fully dilated and no apparent obstacle to a natural delivery. Another doctor had been called at the same time as the writer, and it was decided to anesthetize the patient for a careful examination. On passing the hand into the vagina it passed without any resistance behind the fœtal head and the cervix through a laceration in Douglas's cul-de-sac until the body of the uterus lay in the palm of the hand. The condition was corroborated by Dr. Sutton. The anæsthetic was relaxed enough to allow of aid from the uterine contractions, and forceps were applied with careful and intermittent traction for thirty minutes. The posterior wall of the cervix passed down with the head. The ten-pound fœtus had been dead at least two weeks. The placenta was delivered by hand, and after washing the vagina with sterilized water, it was found that the peritonæum was peeled off of the posterior wall of the uterus to the fundus, but the uterus was intact. After through douching with sterilized water a strip of gauze was placed in the uterus (but none in the laceration) and allowed to remain 48 hours. There was vomiting for four or five days, and on the third day abdominal pain and tenderness which was relieved by free action of the bowels. She complained of pain on the right side, and a month later an abscess was found in the right lumbar region, which opened and

healed after the usual treatment. She had refused to have it opened. Three months later vaginal examination revealed perfect union with slight shortening of the posterior vaginal wall.

Newer Methods in Puerperal Sepsis.

JOHN O. POLAK (*The Post-Graduate*, April, 1900) says that puerperal sepsis usually begins in either putrid or septic endometritis, except there has been direct inoculation through a laceration or abrasion with some germ, either the streptococcus or the tetanus or diphtheria bacillus.

In putrid endometritis there is fever, chill, extremely rapid pulse, gastro-intestinal disturbances, sub-involution and bogginess of the uterus, while the lochia is dark and fœtid. After douching, scrubbing with green soap, and again irrigating the vagina, the uterus must be thoroughly curetted with a large ring curette. After an intra-uterine douche three ten-grain pencils of iodoform may be left in the uterus. No gauze is needed unless there be hæmorrhage. If it is necessary to repeat the intra-uterine douche, formalin, 1 to 500 is best. This must be followed by a gallon of sterile water. General treatment must be supportive and highly stimulating.

Septic endometritis usually begins on the third or fourth day with a single chill and abrupt rise of temperature. The lower abdomen is tender and the uterus sensitive. The lochial discharge is bloody or sanguino-purulent and *devoid of odor*. The interior of the uterus will be found coated with a sanguino-purulent discharge, changing later to pus. After being satisfied that the uterus is empty one intra-uterine douche of boiled water or ¼ per cent. formaline may be given; curetting or further douching is injurious. The nature of the infection must be ascertained by the Döderlein lochial tube.

The antistreptococcic serum is valueless in mixed infections. Blood washing has sometimes almost a miraculous result. Large quantities of normal saline solution at a temperature of 110° are very slowly injected into the cephalic vein. Hypodermics of nitroglycerine help the diffusion of the saline. Rectal irrigation by the Kemp tube is also of much value.

Unguentum Crédé is the most reliable antitoxin in pure streptococcic infection. It contains 15 per cent. of soluble metallic silver and must be rubbed into the cleansed skin of the back, buttocks, and loins until it approximately disappears.

The artificial production of a hyperleukocytosis by the use of nu-

clein and protonuclein is indorsed by many pathologists.

Hysterectomy post-partum should be limited to those cases in which the sepsis is localized, as a metritis with pyosalpinx, or tubo-ovarian abscess, after the acute symptoms have somewhat subsided.

A Second Operation for Tubal Pregnancy upon the Same Patient within a Year.

E. R. SMITH (*Southern Cal. Prac.*, April, 1900) operated upon a primipara on April 11, 1899, for ruptured ectopic gestation of the right tube. The tube was removed with the clots and the patient made a good recovery, although she afterwards suffered from nervousness and insomnia. She menstruated regularly until January, her last period being on December 17th. January 30th, after severe pain and hæmorrhage, she passed a membrane which was thought to be a product of conception. Her attending physician advised curettage, but it was declined. The pain and hæmorrhage continuing she was brought to the hospital at Los Angeles on February 12th, 1900. The abdomen was opened by median incision through the old scar. The ruptured left tube was removed. A mass of six or eight ounces of blood-clots inclosed in the folds of the broad ligament was cleaned out, and the operation completed in the usual way. The recovery was rapid and uneventful.

Two Cases of Recurrent Tubal Pregnancy.

PHILANDER A. HARRIS (*The Med. News*, April 14, 1900) reports two cases of this unusual occurrence. The first patient had borne three children, no miscarriages. On September 16, 1896, after an interval of six weeks since her last menstruation, she was seized with severe colicky pains followed by great soreness over the lower part of the abdomen and nausea. These symptoms continued at intervals with more or less severity for four days, when she was seized with such terrible pains that she was almost unconscious. Her physician advised her removal to the Paterson General Hospital. She was taken directly to the operating-room. Her temperature was 97°, her pulse 170 and hardly perceptible at the wrist. On opening the abdomen "pounds of clots and pints of blood but no fœtus was found." All bleeding points were tied, the cavity cleansed and incision closed. Saline solutions per rectum and the usual restorative treatment were used. The patient left the hospital in twenty-five days in health.

Menstruation was regular until the spring of 1899, when she missed the April period. On May 5th she had colicky pains and a little bleeding, but both ceased until the last of the month, when she had several attacks of pain, but not very severe. From then until July she had some bleeding with clots and pain almost every day. June 21st she was curetted by her physician without relief. On July 2d she was operated on as before. Blood was found in the abdominal cavity and a thin-walled hæmatoma, larger than a child's head, rose from the right horn of the uterus. The patient recovered.

Case II.—The patient had one child eleven years old, no miscarriages. Menstruation was always regular. In March, 1899, when twelve days over time, she had an attack of hæmorrhage and pain for six days. From then until April 28th, she had frequent attacks of severe pain, and almost continuous bleeding with occasional clots. On April 28th, at the hospital, a suprapubic incision was made and a small fœtus was seen, accompanied by clots and much blood. The bleeding points were tied, the abdominal cavity cleaned and a gauze drain placed through the cul-de-sac into the vagina. The patient recovered quickly and menstruation was regular until December, when she went ten days over her time, and had an attack of pain with hæmorrhage. Pain, tenderness on the left side, and a brownish discharge continued until January 15th, when abdominal section was performed, revealing a ruptured left tube and clots and blood in the peritonæal cavity. The patient recovered soon.

Affections of the Kidney in Relation to Pregnancy.

J. CLARENCE WEBSTER (*Jour. Amer. Med. As.*, April 21, 1900) says that functional and structural changes due to pregnancy occur with greater frequency in the kidneys than in other organs. There is more or less hypertrophy of the kidney during pregnancy, and the quantity of urine is usually increased, while the specific gravity is lowered. Sugar is often found in the urine, but more frequently after delivery; this is only milk-sugar from the breasts, not true glucose. Pregnancy does not seem to affect the presence of the latter. Peptones are sometimes found, especially during the first three or four days of the puerperium; they are derived from the involuting uterus. The change which has received most attention is the presence of albumin in the urine, and concerning this there is most difference of opinion. Recent observations prove that serum-albuminuria occurs in about 2 per cent. of pregnant women, who are healthy when preg-

nancy begins. Labor increases the percentage. It is most frequent in very young or very old primiparæ and in multiple pregnancies. It is rare in the early months of pregnancy. There seems to be reason to believe that there may be an albuminuria, not pathologic, but due to a physiologic peculiarity.

In many cases of albuminuria other signs of renal disease are present—anasarca, deficiency in the amount of urine and solids excreted, and the presence of casts, leucocytes and blood-corpuscles. Sufficient post-mortem work has been done to show that cortical lesions generally occur in these cases, although Olshausen described a case in which the urine contained albumin, casts and blood corpuscles at time of labor, eclampsia also existing, and yet the post-mortem showed no changes whatever in the kidneys.

The various theories as to the ætiology of the renal disturbances may be briefly stated. Compression of the ureters; intra-abdominal pressure on the kidneys themselves causing degeneration; compression of the renal arteries or veins; altered metabolism affecting the liver as well as the kidneys. The great quantity of waste material to be eliminated may act as a direct or indirect irritant to the kidneys. Much speculation as to the nature of the waste products exerting the baneful influence exists. Various substances are mentioned, creatin, creatinin, leucomains, ptomains, inorganic salts of potash, alkaloidal products of digestion, etc. Still others consider microbial infection the main factor in producing the toxæmia of pregnancy.

Where true nephritis exists before or begins in pregnancy, the disease becomes more serious; uræmia is apt to occur, eclampsia occurs in only a small percentage of cases as has been shown by Fehling and Leyfert.

The premature delivery of the fœtus often occurs, largely due to the death of the fœtus from the toxic materials accumulated in the system. The fœtal mortality is fully 80 per cent.

The treatment of the renal disorders of pregnancy must be the same as in the non-pregnant state. Their early recognition is of paramount importance. The question of premature delivery must be settled for the individual case.

Great Britain.

Protracted Gestation.

John Phillips (*The Lancet*, January 13, 1900) reports a case of an unmarried girl of sixteen whose menstruation had always been

regular, lasting about a week. She commenced to menstruate on August 17, 1898, ending on the 24th of that month. On September 6th intercourse took place for the first and only time. No menstrual period occurred in September or October, and the girl's aunt took her to a physician, who expressed the opinion that she was pregnant. Instead of the confinement occurring the last of May, as was expected, the child was not born until July 14th, 323 days after the cessation of her last period, and 310 days after the date of coitus. Throughout the entire pregnancy the girl had good health and the labor was normal. The child was of good size and healthy, but not unusually large. The prolonged gestation is interesting from a legal as well as a medical standpoint.

Rupture of the Uterus successfully treated by packing the Tear per Vaginam with Iodoform Gauze.

HERBERT SPENCER (*Ibid.*) reported four cases of rupture of the uterus treated in this way, all of which recovered. The iodoform gauze was less dangerous than cyanide or carbolic gauze, and might be left in for six days or even longer. When the broad ligaments were so much damaged as to endanger the vitality of the uterus hysterectomy should be performed, but abdominal hysterectomy in patients already suffering from the shock of rupture should not be attempted except in extreme cases, as it was nearly always fatal. In cases where the fœtus had passed wholly or in great part into the peritonæal cavity abdominal section was demanded, but should always be accompanied by flushing of the abdomen with hot saline solution. Before packing with iodoform gauze all clots and fluid blood should be removed.

Poisoning by Corrosive Sublimate in a Pregnant Woman.

M. D. EDER (*Ibid.*) reports the case of a primipara, six months' pregnant, who took by mistake 30 grains of corrosive sublimate in water. The lips, mouth, tongue and pharynx were much injured. When seen three hours after the accident there was pain in the throat and abdomen, vomiting and collapse. Large quantities of egg albumin in water were given, warmth applied, a quarter of a grain of morphia given hypodermically, and later hypodermic injections of ether were used. Diarrhea with bloody mucus appeared the next day, but under the same treatment the patient recovered, being able to take solid food in about a month. No œsophageal stricture resulted. Three months later she was confined. There was terrible general œdema, which she

said had been present nearly two months. A large male child was delivered by forceps, and an hour later a dead female child was born. The placenta came away of itself, the uterus contracted well, but the pulse was bad. Two hours later a terrible hæmorrhage occurred, but was controlled by hot water and bimanual compression. Recovery was slow. No sample of urine was ever examined.

Superfecundation and Superfœtation.

(Editorial in *The Lancet,* December 9, 1899.) By superfecundation is meant the separate impregnation of two ova discharged from the ovaries within a short interval of one another. It is a well-recognized fact among breeders of animals, and there are enough instances in which a negress has given birth to a black child and a mulatto, or a white woman to a white child and a mulatto, to prove its occurrence in the human female. But as Spiegelberg points out, in such cases it is possible that in the twins resulting from such a cross, one might resemble the father and the other the mother. Some obstetricians have thought that superfecundation accounted for most twin pregnancies, but this is negatived by the fact that there is commonly but one placenta.

By superfœtation is understood the impregnation in a woman already pregnant, after the first pregnancy has lasted some weeks or months, of a second ovum belonging to a second ovulation. To render this possible ovulation must occur during pregnancy. It has been proved beyond question by Löwenthal, Slavjansky, and others that ova are occasionally discharged during pregnancy, but can they find their way into the uterus and become fertilized? It is certain that the ovum does not fill the uterine cavity during the first two months of pregnancy, but the ends of the tubes may become blocked early in pregnancy. Cases have been reported from time to time of women giving birth to two apparently mature infants, one three or four months after the other. But it is probable that either the woman possessed a double uterus, or else the pregnancy was a twin one, and the development of the two children, born at different periods, was not carefully compared and recorded. Marked difference in development is often noted in twins born at the same time, and two children may attain to the same degree of development in very varying periods of time. Superfœtation must be regarded as still "not proven."

Hydatid Cyst in the Omentum obstructing Labor.

JOHN E. GEMMELL (*British Med. Jour.,* December 9, 1899) was called to see a primipara who had been in labor 27 hours, attended by

a midwife. On examination the os was found to be dilated, but the head had not descended into the pelvis owing to the presence of a movable cystic tumor the size of a cocoanut. It was found that this could be pushed out of the pelvis into the abdomen, between the pains; forceps were then applied and delivery effected.

Six weeks later the patient was admitted to the Hospital for Women in Liverpool for operation. A diagnosis was made of a dermoid ovarian cyst with a long pedicle. On opening the abdomen the omentum was found to be spread over the tumor and adherent to it and the abdominal wall. Exploration of the pelvis proved the uterus, ovaries, and Fallopian tubes to be healthy and free, and in no way connected with the cyst. The cyst had no real pedicle but adhesions to the omentum formed a pedicle for it and allowed of free movement. On the right side it was adherent to the bladder. A trocar and cannula were pushed into the cyst and a jelly-like matter pressed out, which consisted of daughter cysts, proving the tumor to be a hydatid. The adherent omentum was ligated and separated and the cyst removed. Another small cyst containing daughter cysts was removed from the posterior wall of the uterus. A thorough exploration of the abdominal cavity was made but no more cysts were discovered. The wound was closed without drainage and recovery was rapid. Such cysts are rare unless there is also a tumor of the liver. The patient had never lived in the country, nor anywhere where dogs were kept, and the source of infection was impossible to determine.

A Fœtal Anomaly.

PERCY SHELLEY (*The Lancet,* December 16, 1899) reports the birth of a six-and-a-half-months' male fœtus presenting a curious deformity. There was apparently no sacrum or coccyx, but a spina bifida in the lumbar region formed a mass 16 in. in circumference, and seemed to inclose and envelop the lower extremities. The surface looked like the fœtal side of a placenta covered with veins; from a rent in the lower end of the mass the venous blood poured. The child lived about five minutes. The placenta was covered with caseous tubercular masses, and the quantity of liquor amnii was immense. The mother had pulmonary tuberculosis. The labor was a very difficult one, and had the mass gone on increasing to full term, it is doubtful it it could have been delivered without Cæsarean section.

Myomectomy for Subperitonæal Myoma complicating Pregnancy.

H. MUIR EVANS (*British Med. Jour.,* December 16, 1899) was consulted by a primipara at the end of the fourth month of pregnancy

for obstinate constipation, and severe pain in the left groin. A mass about the size of an orange lay in the pelvic inlet at the left of the enlarged uterus, with which it apparently had no connection. As the ovary could not be felt a diagnosis of cystic ovary, or a solid tumor of that organ, was made. As the position of the tumor, and its probable growth, would interfere with labor, its removal was decided upon. On opening the abdomen in the median line, the tumor was found to be a mottled whitish-yellow solid body, more than three inches in diameter, and attached by a pedicle an inch in diameter to the lower left side of the uterus. The healthy appendages were behind it. The pedicle was ligated and the tumor removed; its structure showed it to be a fibromyoma of the uterus. The stump of the pedicle was hollowed out by snipping away the central portion, so as to allow the peritoneum to be drawn across it, which was then stitched carefully together with chromic catgut. There was no hemorrhage.

Painful uterine contractions occurred for the first twenty-four hours after the operation, but they were controlled by morphine suppositories. There was no temperature after the first day. The patient was up and about at the end of a month, the abdomen being supported by a well-fitted belt.

The Use of Cocaine in Labor.

PERRY T. GOODMAN (*Ibid.*) was called to a confinment case in which the os remained undilated after sixteen hours of strong pains with unruptured membranes and a vertex presentation. Cotton, saturated with a ten per cent. solution of cocaine, was placed between the membranes and the wall of the cervical canal. With the next pain the os dilated so rapidly that it was like the opening of a door, and in a few minutes it was fully dilated, and the labor was soon completed. As there had been an accidental hæmorrhage on the placental site before labor (a mass of blood-clot as large as the placenta following the delivery of the latter), the child was still-born, and the mother attributed it to the cocaine.

The Treatment of Puerperal Eclampsia by Diuretic Infusions.

ROBERT JARDINE (*British Med. Jour.*, May 26, 1900) says that in cases of eclampsia not enough attention is given to the securing of prompt action of the kidneys, as a means of eliminating the toxin causing the trouble. The ordinary means of controlling the convulsions should be used. Where the pulse is tense and quick hypodermic

injections of from ten to fifteen minims of veratrum viride acts well. Large doses of chloral and bromide are useful. A dose of from four to six tablespoonfuls of magnesium sulphate dissolved in warm water acts promptly on the bowels; this may be given through a tube if the patient cannot swallow. The action of the skin is promoted by hot packs or steam baths. But the great point, in the writer's estimation, is to secure prompt and free action of the kidneys. Diuretics given by mouth act too slowly where convulsions have begun, but the injection under the breasts or into the abdominal wall or axilla of from one to three pints of a solution containing one drachm of sod. acetate and one drachm of sod. chloride to the pint acts quickly on the kidneys, increasing not only the quantity of urine, but the urea and uric acid. Instead of the above, equal parts of bicarbonate of potash and sodium chloride, one drachm to the pint may be used. The writer has never had an abscess following the injections.

Of 22 cases treated by this method only 5 died, 1 of whom had double pneumonia and multiple ulcers of the stomach: in a second, death on the seventh day was due to a perforating duodenal ulcer: while the three others had been in convulsions for hours before any treatment was given.

It is interesting to note that one dead child was delivered whose arms were perfectly rigid. In a second instance convulsions occurred in the child the day after delivery. In two cases of living children specimens of urine were obtained and found to contain albumin, while in two cases of dead macerated children, the urine was loaded with albumin.

A Case of Uterus Bicornis accidentally discovered after the Patient's Fourth Pregnancy.

C. Herbert Rolph (*ibid.*) says that the case is of interest not so much from its rarity as from the fact that three full-term children had been born without the condition being discovered. The manipulative interference necessary to remove the retained placenta of a first and a half-normal miscarriage led to the discovery that a common cervix above which was a median septum, opened into two uterine cavities, the right being normal as to the thickness and texture of its walls, while the left was a long, finger-like process, being, at the time of the miscarriage about four inches deep and containing a decidual cast which was discharged with considerable hæmorrhage three days before the normal fœtus was expelled from the right uterine cavity. It is unnecessary to point out that when pregnancy occurs in one-half of a bicornate uterus it [illegible] forms in the other.

PÆDIATRICS.

UNITED STATES.

Thyroid Extract in Juvenile Obesity.

I. N. LOVE (*Jour of the Amer. Med. Assoc.*, April 21, 1900) reports three cases of excessively fat children who have been under treatment for from twelve to sixteen months. Two years ago he reported four cases of the same nature. The children's ages varied from six to ten years, and their weights from one hundred and six to one hundred and seventy pounds. These children were not cretins but all of fair intelligence. The course of treatment consists in regulating the diet by forbidding sweets and fats, and ordering the free use of fruits and such vegetables as cabbage, spinach, tomatoes, etc. Bathing, massage and active out-door exercise must be persisted in. Where there is constipation the bowels must be regulated. But the most important factor in the writer's opinion is the use of thyroid extract in gradually increasing doses. With a child of eight years weighing one hundred and thirty pounds the initial dose was two and one-half grains of thyroid tablet three times a day, increased till five grains four times a day was given. To prevent the headaches, depression and various unpleasant feelings accompanying the use of thyroid extract, strychnia in doses varying from $^1/_{150}$ to $^1/_{50}$ of a grain should be given. The improvement is remarkable in these cases. Not only does the excessive fat disappear but muscle develops and the child improves both mentally and physically. It is probable that in many of these cases the treatment may need to be persisted in till maturity, or at least till they have "outgrown" the tendency to obesity.

The Chemistry of Cow's Milk, with Refcrence to Infant-Feeding.

E. H. BARTLEY (*Brooklyn Med. Jour.*, May, 1900) says that it is conceded that the ideal food for infants must conform, as nearly as possible, to mother's milk. Cow's milk forms the best available basis. The analyses usually published to show the differences between the human and cow's milk fail to show many important differences that exist. The reaction of mother's milk is alkaline, of cow's milk neutral or slightly acid. On boiling, human milk shows a very slight pellible, while cow's milk has a decided pellicle composed of casein

and lime salts. The fats differ largely in composition, and there is a much larger proportion of volatile fatty acids in cow's milk. In human milk most of the phosphorus exists in organic combination; in cow's milk it is mostly in inorganic combination as calcium phosphate. Human milk contains but one-third as much caseinogen as cow's, while the digestibility of the former is much greater. The difference in sugar can be adjusted fairly well by adding milk-sugar.

It is with the digestion of the proteids that it is generally supposed that the child has the greatest difficulty. Not only is there an excess of caseinogen in cow's milk, but it is less completely in solution. This is due to the presence of a much larger percentage of albumin in mother's milk. In human milk the proportion of albumin to caseinogen is 1.2:1, while in cow's milk it is 1:7. This fact seems to be lost sight of by writers on infant-feeding, much to the detriment of the infant. It is often recommended for young infants to reduce the proteids to one per cent. or less. They cannot digest a larger amount of caseinogen, but they *can* digest a larger proportion of soluble albumin, which if added to the diluted cow's milk will not only bring the proteids up to the standard of human milk, but causes the coagulation to take place in much finer flocculi, breaking up the precipitated casein so as to be more easily digested.

The two highly phosphorized compounds, nuclein and lecithin, are rarely mentioned in comparative analyses. The three per cent. of caseinogen in cow's milk contains but one-half as much nuclein as the one per cent. of human milk, and when the caseinogen of cow's milk is reduced to one per cent. by dilution, the nuclein is reduced to one-sixth that of human milk. The nuclein is an important element in forming new cells. In sterilizing milk the nuclein is decomposed, the phosphorus separating, showing why sterilized foods tend to rachitis. Lecithin is present in human milk in even larger quantities then nuclein, in about the same proportion as in egg-yolk. This also is decomposed by heat, and its phosphorus becomes phosphoric acid, *inorganic,* instead of *organic* phosphorus. The question of replacing fats and sugar with other carbohydrates demands attention. Dextrine and maltose may, to a certain extent, replace fat and sugar, but not without detriment to the infant in the long run.

Diluting ordinary milk to reduce the proteids also reduces the fat below the proper standard. If fresh centrifugal cream can be obtained, this will supply the fat, but the ordinary market cream is too nearly sour. Nor will the addition of lime-water do more than neutralize the free lactic acid. It does not check the lactic ferment already

under way. Moreover the fat does not perfectly emulsify. The defects of sterilized milk as furnished by laboratories for infant-feeding may be inferred from the above, but the sterilization itself does harm in the following ways:

1. It melts the fat and destroys the emulsion.
2. It dehydrates and partially decomposes the sugar.
3. It coagulates the albumin and globulin, and alters the composition of the caseinogen.
4. It destroys nuclein and lecithin, converting the organic into organic phosphorus which is lost in the feces.
5. Children fed exclusively upon sterilized milk become rachitic.
6. It is unnecessary, as the pasteurization temperature of 155° F. is sufficient to destroy all germs except the tubercle bacilli.

The writer has prepared for the use of mothers directions for preparing an infant's food, in which so far as possible the defects of other infant's foods have been remedied.

Siphon off from the bottom of a bottle of good fresh milk three-fourths of its contents, leaving the milk and cream at top undisturbed. The skim-milk should be placed in a double boiler; add to it a teaspoon and a half of essence of pepsin, warm in a boiler slowly to blood heat, and keep at that temperature until well curdled. Heat, with constant stirring to 155° F., then remove from fire; strain, while hot, through wire strainer, and dissolve in the whey a heaping teaspoon of sugar of milk and the white of one egg. When cold, pour the sweetened whey back into the milk bottle and mix thoroughly with the milk and cream. Pasteurize the mixture in a Freeman's pasteurizer.

If this food prove too laxative, decrease the amount of milk-sugar. It is well to add, at time of feeding, one or two teaspoons of lime-water to each meal.

As the child grows older, less bottom milk may be siphoned off. This food has given uniformly good results.

Use of Opium in Infancy, seen in Adult Life.

T. D. CROTHERS (*Jour. Amer. Med. As.*, May 19, 1900) says that the danger of opium as a remedy in infancy has only recently been recognized, even a text-book speaks of the action of even continued doses as transient. The various tinctures and infusions are household remedies, and herein lies the great danger, for the administration of the drug is continued long after the trouble which called for the initial

dose has passed. Opium and its alkaloids seem to have two distinct effects on the nerve-centers and organism of infancy. Cell functions and growths are retarded and finally changed. In some cases the symptoms of stupor and quietness go on to lessened mental vigor, mental perversion and even imbecility in later life. In other cases there are extreme irritability and tendencies to morbid impulses, almost beyond control. Two children of a noted missionary were nursed by a Hindoo woman, who was afterward found to be an opium-taker. The children, as infants, were more quiet and sleepy than children usually are. The daughter grew up extremely nervous, and although an accomplished woman of fine character, began suddenly, when 24 years old, to use both alcohol and opium to excess. The history of the son was similar. Two other children in the family, who did not nurse this Hindoo, are strong and healthy in mind and body. The writer cites the case of five children in one family, who became addicted to alcohol and opium by the time they were 20 years of age. The parents were total abstainers, and the home life all that it should be. It was found that from earliest infancy and throughout childhood the mother had been in the habit of giving laudanum and paregoric for all sorts of ills, sometimes continuing the use of the drug for several months at a time. The writer has investigated the history of a large number of alcohol and opium habitués, and in at least ten per cent. there was a history of more or less drugging with opium in infancy. Nor are these pronounced habits the only result. Nervous dyspepsia, profound exhaustion from slight overwork or excitement, degeneracies appearing after puberty or in early manhood, may in numerous instances be traced to the same cause.

In other cases the disturbances of nutrition, retarded growth, anæmia, and kindred disorders are more pronounced than the mental disturbances. Not only are mothers offenders in this matter, but the thoughtless physician who uses opium freely in infantile prescriptions is responsible for many wrecks in later life. Inquiry brings out this cause with great frequency.



THE LATE DR. ALEXANDER J. C. SKENE.

(*Obituary, page 143.*)

THE
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AND
OBSTETRICAL JOURNAL.

AUGUST, 1900.

THE UTILITY OF A CERTAIN CHART FOR THE DETERMINATION O FPELVIC ASYMMETRY FROM A SIMPLE METHOD OF EXTERNAL PELVIMETRY.*

By Philander A. Harris, M.D., Paterson, N. J.

Pelvimeter.

I employ the pelvimeter shown you in Fig. 1, and which I devised several years ago. Although graduated in centimeters, the centimeter marks are so widely separated that it is possible to read fractions of a centimeter, even to two-tenths of a centimeter. The points are not spherical or conated, as is usual with pelvimeters, but they are disk-shaped. The disks are held between the thumb and a finger of each hand and pressed firmly but not painfully upon the patient and the distance read during the application.

Method of Measurement.

1. Apply the disks of the pelvimeter at those points on the outer side of the iliac crests where I can effect the greatest diameter.

2. Locate the two anterior-superior iliac spines and place the disks of the pelvimeter on the outside of each, but very near the anterior termination of processes.

3. Place one disk of the pelvimeter in the median line at the lumbo-sacral junction and the other at the most prominent anterior point of the pubes. By the most prominent point is meant the point at which the greatest diameter is obtainable.

All measurements are made with firm but not painful pressure of the disks of the pelvimeter during the reading.

*Read before the American Gynæcological Society, Washington, D.C., May 3d, 1900.

Allowance for Obesity.

With women of about normal weight I have recorded the measurements as read from the pelvimeter, but for obesity I have usually de-

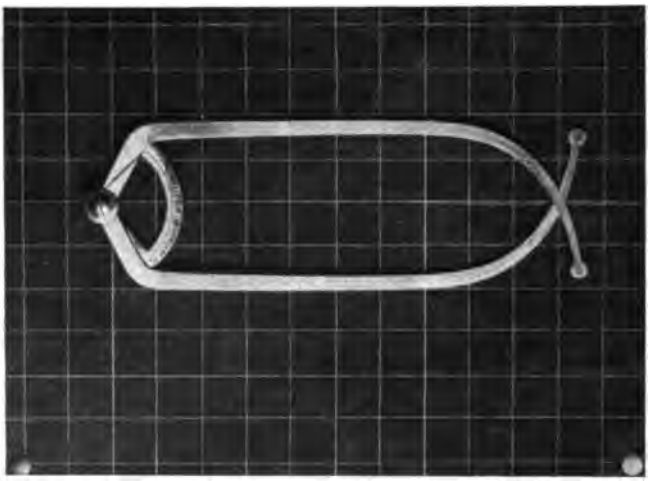


Fig. 1.

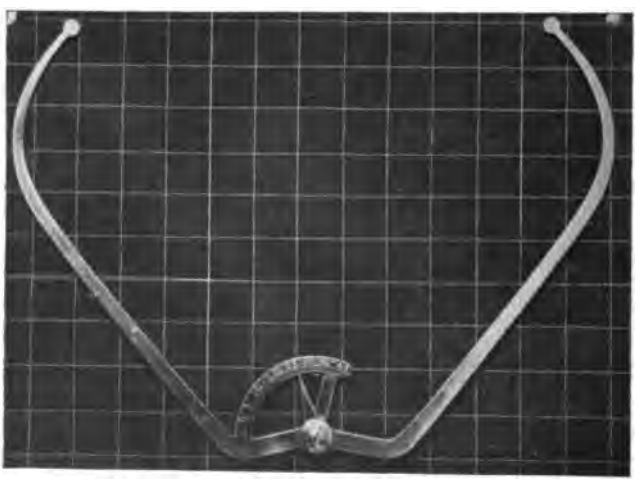


Fig. 2.

ducted one centimeter from the reading, and at least two centimeters from the external conjugate for *very pronounced obesity.*

A deduction of one-half or one centimeter from intercrest and interspinous readings is all the allowance I have made on account of obesity or very pronounced obesity.

Several years since I began and industriously continued to make and record the distance between the iliac crests, the anterior-superior iliac spines, and the sacrum and pubes, of almost all women who presented in obstetric or gynæcologic practice. A small percentage of the whole number of pelves were found by external pelvimetry or by other tests, to be more or less out of shape and sufficiently so to warrant me in classifying them as asymmetrical.

Having thus eliminated the pelves which were found to be unsymmetrical, I grouped all others in several distinct classes according to size. The first group embraced all pelves measuring 24 centimeters between the iliac crests. The second group included those which measured half a centimeter more, or 24.5 centimeters, between iliac crests. The third group measured 25 centimeters between iliac crests. The fourth group embraced those which measured 25.5 centimeters between iliac crests. The fifth group included all which measured about 26 centimeters between iliac crests; and so on until every pelvis to the extremes of size was placed in one or other of the several groups.

Having thus classified what I esteemed to be the pelves of normal conformation, I averaged the interspinous and external conjugate measurements for each class and assumed that, for theoretical and practical purposes, the results in any instance would afford me the two companion measurements for pelves of that particular group or class.

To show how this result was obtained, let us assume, for example, that the different pelves, five in number, of one group and size, measured respectively about as follows:

Twenty-five Centimeter Class.

	No. 1.	No. 2.	No. 3.	No. 4.	No. 5.
	cm.	cm.	cm.	cm.	cm.
Intercrest	25.0	25.0	25.0	25.0	25.0
Interspinous measurement	23.0	22.2	22.8	23.2	22.8
External conjugate measurement..	17.0	17.8	17.4	17.6	17.2

Addition of the interspinous measurements and division by the number of pelves of this class:

Interiliac spinous measurement of pelvis: No. 1, 23.0 cms.; No. 2, 23.2 cms.; No 3, 22.8 cms.; No. 4, 23.2 cms.; No. 5, 22.8 cms.; total, 115.0 cms.

One hundred and fifteen centimeters divided by five, the number of pelves of this class, gives us 23 centimeters, which is the average or composite interspinous measurement for the pelves of this group, and which measured about 25 centimeters between the iliac crests.

External conjugate of pelvis: No. 1, 17.0 cms.; No. 2, 17.8 cms.; No. 3, 17.4 cms.; No. 4, 17.6 cms.; No. 5, 17.2 cms.; total, 87.0 cms.

Eighty-seven centimeters divided by five, the number of pelves in this group, gives us 17.4 cms., which is the composite or average external conjugate measurement for the pelvis in this 25 cm. group.

You will thus see how, by grouping all normal pelves in relation to

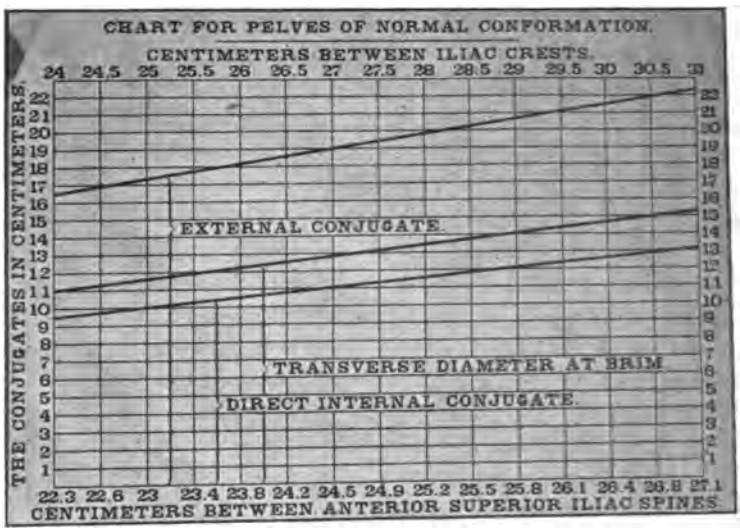


Fig. 3.

size between iliac crests, I was able to obtain averages of the two other and companion measurements in every instance. With these results in hand I devised a chart which shows the companion measurements for pelvis of one or other of the dozen or more groups or sizes. We may also read from the chart what I deem to be the companion measurement of the direct internal conjugate, and also the transverse diameter at brim of pelves of any size.

Description of Chart.

The space between any two horizontal lines represents one centimeter, the figures at the left and the right, reading from zero, indicate the number of centimeters for antero-posterior or external conju-

gate measurements. The heavy line beginning at 16.5 centimeters to our left on the chart and terminating at about 22.4 centimeters on our right, I designate as the external conjugate line.

Near the top of the chart appears a progressive series of numbers any one of which may be utilized for an interiliac crest measurement. The lines which descend from these numbers terminate at the bottom of the chart, where another progressive series of figures indicate the several companion measurements between the anterior superior spinous processes of the ilium.

The heavy line running obliquely across the chart from 11 centimeters upon our left to 15.3 centimeters upon our right, indicates the transverse diameter at brim, according to the point at which it may be intersected by any particular line in interest, thus:

A pelvis of normal conformation measuring 29 centimeters between iliac crests would measure 14 centimeters transversely at superior strait, and would measure 25.8 centimeters between iliac spines, and 20.7 centimeters over sacrum and pubes.

The heavy line running obliquely across the chart from 9.5 centimeters on our left to 13.1 centimeters on our right indicates by its intersection with any vertical line the companion direct internal conjugate of any pelvis in interest.

To make practical use of the chart, let us assume that we have examined a pelvis and find it to measure 27 centimeters between iliac crests. We follow the descending line underneath 27 centimeters to to bottom of the chart, and there we read 24.5 centimeters, that being the companion interiliac spinal measurement. Observe the point at which the descending vertical line just referred to intersects the broad and inclined external conjugate line, and follow the horizontal line from that point to its termination at the left or right of the chart, and we there read the companion external conjugate diameter for a pelvis measuring exactly 28 centimeters between crests. It is 19 centimeters.

Another Illustration.

A pelvis presents with an external conjugate of 21 centimeters. Let the eye follow the horizontal line from the figures 21 at either the left or right side of the chart to its intersection with the external inclined conjugate line; from that point follow the vertical line to the top of the chart and read the companion intercrest measurement, which is 29.5 centimeters, and to the bottom of the chart to ascertain the companion interiliac spinous measurement, which is 26.1 centimeters.

Another Example.

If a pelvis presents with an interiliac spinous measurement of 23 centimeters, follow the vertical line upward to its intersection with the external conjugate line, and you will find that the companion external conjugate measurement should be about 17.4 centimeters. Follow the vertical line to the top of the chart, and it terminates at 25, that being the companion interiliac crest measurement for a pelvis with an interiliac spinous measurement of 23 centimeters.

As one uses the chart a little he naturally acquires the habit of reading between the lines, and he soon imagines that he measures so accurately that he begins to find, for example, a pelvis whose interiliac crests are neither exactly 27.5 centimeters nor 28 centimeters, reading from his pelvimeter during application 27.7 centimeters. He looks at the chart and, finding no such interiliac crest in figures, imagines a line to descend two-fifths of the way between the 27.5 and 28 centimeters; that it intersects the external conjugate line at about 19.5 centimeters, and that his imaginary line descends to the bottom of the chart, where he estimates that the companion interiliac spinous measurement would be about 25 centimeters.

Asymmetrical Pelves.

If, in the mensuration of a pelvis, any one of these three companion measurements is found to be very much less or greater than the indications of the chart, we must feel fully warranted in the presumption of asymmetry. In such instances two of the diameters depart widely from the standard. The following from my collection of asymmetrical pelves illustrates this:

Case A.—Before craniotomy. Crest, 29 centimeters, iliac spines, 29 centimeters; external conjugate, 19 centimeters.

At autopsy, when post-mortem symphysiotomy was performed, the following internal diameters were taken: Direct internal conjugate, 6.3 centimeters; transverse, 13.8 centimeters.

In this case the increased distance between the iliac spines afforded most pronounced indication of asymmetry.

Very often only one diameter departs materially from the indications of the chart, and is illustrated by the following from my collection of ill-formed pelves:

Case B.—Crest, 27 centimeters; iliac spines, 22.5 centimeters; external conjugate, 17.5 centimeters.

In this instance one might assume the intercrest diameter at fault, since the relation of the interiliac spine to the external conjugate conforms with the indications of the chart. However this may be, it is sufficient to note that the external measurements indicated internal asymmetry, and should at once have directed us to more particular and internal examination. An external conjugate of 17.5 centimeters does not belong to a crest of 27 centimeters. She was a handsome young woman, with broad hips, presenting the following parturient history: First labor; very prolonged second stage; instrumental delivery with dead child weighing seven and one-half pounds; second labor, prolonged second stage, delivery of a living child weighing six and one-half pounds, without instrumental aid; third labor, head rested at the superior strait, instrumental delivery of a living child weighing seven pounds.

Case C.—From my asymmetrical list. It was rachitic, with the following measurements and history: Crest, 26 centimeters; iliac spines, 25.5 centimeters; external conjugate, 17 centimeters.

Comparison of these diameters, with the indications of the chart, shows that no measurement is right in its relation to either of the others.

First labor, instrumental delivery of a dead child after a prolonged second stage, attended by a professional friend of mine; second labor, delivery without instrumental aid, after a short second stage, of a living child weighing five and one-half pounds; third labor, instrumental delivery of a living child weighing seven pounds; fourth labor, instrumental delivery of a living child weighing seven pounds. This woman was attended by the reader in all but her first confinement, and her three children born alive are still living.

Case D.—Another from my asymmetrical list: Crest, 27 centimeters; iliac spines, 26 centimeters; external conjugates, 21 centimeters.

Probably also rachitic, with the following parturient history: Prolonged second stage, head rested at brim, delivery with the forceps of a dead child weighing eight pounds.

Here again the measurements are not in accordance with the indications of the chart.

Case E.—Another asymmetrical pelvis. Dimensions: Weight, 185 pounds; height, 158 centimeters; crest, 29 centimeters; iliac spines, 27 centimeters; external conjugate, 20 centimeters. Correction of measurements on account of obesity: Crest, 28.3 centimeters; iliac spines, 26.3 centimeters; external conjugate, 18.6 centimeters.

This woman's first labor lasted two days and was delivered with

forceps; living child; second labor, small living child, long labor, no assistance; third labor, seventy-two hours, small living child, unaided; fourth labor, chloroform, forceps, dead child; fifth labor, anæsthesia, failure with forceps and resort to symphysiotomy and delivery of child weighing ten and one-half pounds, nude. Afterward delivered of a smaller child by the forceps.

Case F.—Another patient, aged fifteen years, four feet six inches in height, pelvis small and probably slightly out of shape. Crest, 22 centimeters; iliac spines, 21.5 centimeters, should have been about 20.5 centimeters; external conjugate, 16.5 centimeters, should have been about 15.5 cntimeters; internal conjugate, 7 centimeters.

Judging from the relatively increased external conjugate, I judge that she had a relatively shortened transverse internal diameter at brim.

She was delivered by Cæsarian section of an eight and one-half pound living child. She returned to the hospital at the age of eighteen for accouchement, when all the diameters were found to have increased. The internal conjugate then measured 9 centimeters, and she was delivered with the aid of forceps of a child weighing about seven and one-half pounds.

Case G.—Measured at autopsy after death following Cæsarian section by a friend. A round pelvis. Crest, 23.5 centimeters; iliac spines, 21.5 centimeters; external conjugate, 18 centimeters. At autopsy: Internal conjugate, 10.1 centimeters = 4.1 inches; transverse, 10.2 centimeters = 4.2 inches.

On the chart you will notice that in extremely small pelves the difference in measurement between iliac crests and iliac spines is less than 2 centimeters, and that as we proceed to examine larger and larger pelves this difference increases uniformly until in extremely large pelves it amounts to about 4 centimeters.

I wish to direct particular attention to the relation of the external conjugate line to the companion intercrest and interspinous dimensions. You will notice that it increases in geometric ratio with the increasing size of the pelvis. Although my measurements have established this external conjugate line practically in this form, that is, in the form of a straight line from the smallest to the largest pelves, I had presumed that my calculations would eventuate in an upward or downward curving of the conjugate lines. While in making these averages there were slight deflections in the two conjugate lines, their general direction was so nearly straight that I assumed the slight deflections to be only as one might have expected from averages based on a comparatively limited number (several hundred) of observations. In this relation

I would say that such a chart should be based upon the averages of a few thousand, instead of a few hundred, cases. I indulge the hope that some one having abundant material at hand will continue this work of recording and averaging the relative measurements of normal pelves of various sizes, and thus correct or maintain, with greater authenticity, the readings of this chart.

I have not in this study attempted to deal with other than the intimations of the three common external pelvic measurements. They are the most important and relate to the superior strait, or that part of the birth canal where osseous deformity or contraction so frequently eventuates in trouble for all interested.

Regarding the practical utility of external pelvimetry, I believe that with this chart as a reference to guide us in our estimations, or with some similar standard whereby we may easily determine not only the size but also pronounce on the qualities of symmetry and asymmetry, we shall be able to discover, with almost unerring certainty, the pelves which are most liable to give trouble in parturition.

In general, external pelvimetry offers only presumptive evidence; but the presumption is so strong in many cases that the birth of an undersized child only may appear to clinically disprove its claims.

The practice of external pelvimetry is harmless in that it may be used without endangering the patient to sepsis, and it is of great value in directing us in certain cases to more particular internal examination. It also enables us, in just those cases where the knowledge may be of value, to announce at times that the superior strait is small, ill-shapen, or narrowed antero-posteriorly, and that a large child, and especially a malposition of the child, so often caused by asymmetrical pelves, may eventuate in mch trouble to all interested.

Moderately small but symmetrically formed pelves may offer far less resistance to childbirth than much larger ones with greatly shortened conjugates.

I once saw a master of obstetrics make a single measurement—the distance over sacrum and pubes—and he at once remarked to a class of students that the pelvis was slightly flattened. Without knowing the companion iliac crest and interspinous diameters, I think that he had no good reason for assuming that the pelvis was flattened. "Flattening" is a relative term, and if one is without some standard of reference for pelves in their varying sizes, he may easily mislead by its clinical use.

DEMONSTRATION OF CASTS USED IN OBSTETRICAL AND GYNÆCOLOGICAL TEACHING.*

By J. Clarence Webster, M.D., Chicago, Ill.
Professor of Gynæcology and Obstetrics, Rush Medical College.

I. Obstetrical.—The following casts were obtained from the bodies of women who died during pregnancy and labor. They are life-size reproductions and exactly represent the normal anatomical relationships during these periods. The third-month specimens were obtained by me from a case in which death occurred shortly after admission into the Royal Victoria Hospital, Montreal, from pernicious vomiting. The fifth-month specimens were made by me from a woman who died in the Royal Infirmary, Edinburgh, G. B., after operation. (A description of this case, along with drawings of the sections obtained after the body was frozen, has been published in my monograph, "Researches in Female Pelvic Anatomy," published by the Royal College of Physicians, Edinburgh. The casts illustrating the condition found at the beginning of the eighth month of pregnancy and in the second stage of labor were made from cases which were studied conjointly with Freeland Barbour of Edinburgh and myself and published by us in the "Laboratory Reports, Royal College of Physicians," Vol. II.

The casts made by Dr. William C. Lusk of New York were obtained from the body of the first pregnant studied in America by means of frozen sections. It was my good fortune to be able to study these sections during their preparation.

The following is the list of the casts demonstrated:

I. End of third month of pregnancy. Vertical mesial section of pelvis. Left half shown. Fœtus and liquor amnii removed. It is to be noted that the vera and reflext are not united, and that the placenta is partly reflexal. II. *a.* Beginning of fifth month of pregnancy. Vertical mesial section. Right half shown. Fœtus and liquor amnii removed. II. *b.* The same as II. *a.* Left half shown. II. *c.* Cast of amniotic cavity at beginning of fifth month of pregnancy. Note that it is pear-shaped, the thick portion being lowermost. III. *a.* Beginning of eighth month of pregnancy. Vertical mesial section. Right half shown. Fœtus and liquor amnii removed. III. *b.* The same as III. *a.* Left half shown. III. *c.* Cast of amniotic cavity at beginning of eighth

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month of pregnancy. Note that it is pear-shaped, the thick portion being uppermost. IV. *a.* Labor. Advanced second stage. Primipara. Vertical mesial section. Right half shown. Fœtus and liquor amnii removed. IV. *b.* Labor. Advanced second stage. Primipara. Vertical mesial section. Left half shown. Fœtus and liquor amnii removed. IV. *c.* Labor. Advanced second stage. Primipara. Cast of whole genital tract. IV. *d.* The same as IV. *a.*, the fœtus being *in situ.* IV. *e.* The same as IV. *b.*, the fœtus being *in situ.* IV. *f.* Labor. Advanced second stage. Primipara. Cast of fœtus removed from genital tract. IV. *g.* Cast of whole genital tract in above case.

The following casts were made by Dr. William C. Lusk, New York:

V. *a.* First stage of labor. Premature. Multipara. Vertical mesial section. Right half shown. Fœtus and liquor amnii removed. V. *b.* The same case. Vertical mesial section. Left half shown. V. *c.* The same case. Cast of amniotic cavity. Note: The shape of this cast indicates that the woman probably died during a period of uterine contraction. V. *d.* The same as V. *a.* Fœtus *in situ.* V. *e.* The same as V. *b.* Fœtus *in situ.* *V. f.* The same case. Cast of fœtus removed from uterus.

II. Gynæcological.—The following casts illustrate various pathologic conditions and operative procedures. I modeled these first of all in sculptor's clay and afterward had them cast in plaster. Then I painted the latter in oil colors. The value of these casts, in giving instruction to students, being nearly exact reproductions from nature, is very great. The following is the series exhibited:

A. 1-2-3-4. Stages of operation for repair of perinæal tear extending into rectum. B. 1-2-3-4-5-6-7-8. Stages of operation for total extirpation of uterus by vaginal route. C. 1-2-3-4. Stages of operation for carrying out a high amputation of cervix in a case of prolapsus uteri. D. 1-2-3-4. Stages of procedure in Martin's amputation of cervix. E. 1. Prolapsed and retroflexed uterus. E. 2. Prolapsed and anteflexed uterus. F. 1-2. Repair of laceration of cervix. G. 1. Prolapsus uteri and cystocele. H. Anterior colporrhaphy. I. 1-2-3-4-5. Repair of partial rupture of perinæum. J. 1-2-3-4. Stages of operation for repair of perinæal tear extending into rectum. K. Posterior colporrhaphy (Martin). L. 1-2-3. Various methods of carrying out colpoperineorrhaphy. M. 1. Operation for small vesico-vaginal fistula. M. *2a-2b.* Operation for medium vesico-vaginal fistula. M. *3a-3b.* Operation for large vesico-vaginal fistula. M. *4a-4b.* Operation for very large vesico-vaginal fistula. N. Anterior colpotomy.

CYST OF THE ABDOMINAL WALL: REPORT OF A CASE.*

By L. J. Hammond, M.D., Philadelphia, Pa.

A patient consulted me in February for what I supposed to be a left broad-ligament cyst; she first noticed it in September last. This diagnosis had been made by two other gentlemen. I was then taken sick, and did not see the case again until three weeks ago, when I examined her and reassured myself that it was a case of left broad-ligament cyst or tumor in the left broad-ligament region. I advised its removal, which she consented to, and three days later, that is seventeen days ago, the usual incision was made in the median line, and on reaching the fascia of the external oblique the adhesion of this to all the abdominal layers clearly showed the mass to be within the abdominal walls. The mass, which was the size of a cocoanut, was adherent at its upper part to all the covering below the deep fascia and to the peritonæum at one point so closely that it was necessary to cut it away, thus opening up the peritonæal cavity at this point only. The mass was something on this order [Blackboard demonstration]: Say that this is the abdominal wall, this would represent the tumor, and this represents the peritonæum dipping into the left iliac region, so that by vaginal examination the mass presented all the evidence to the touch that would be presented by either a solid or a fluid tumor in that region. In reality the mass had started at the pubic attachment of the transversalis muscle, involving also the internal and external oblique muscle, together with peritonæum, so that the weight of the mass itself caused it to drop into the abdominal cavity, giving it the appearance of what we would expect in left broad-ligament soft tumors.

It is an exceptionally interesting case to me, and I do not know of any other like it that has been reported, except one by Mr. Bryan of London, who reports a case of dermoid cyst which had its origin between the transversalis and the peritonæum. It was enormous in size and was taken for a broad-ligament cyst. In his case several tappings had been done before it was finally operated upon, and its true nature known. Macroscopically this growth presented the appearance of a fibrocyst. Its point of origin was about the pubic attachment of the under surface of the transversalis. The whole mass has involved all the structures of the abdomen except the fascia's.

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SPONTANEOUS RUPTURE OF THE UTERUS.*

By Walter V. Woods, M.D., Philadelphia, Pa.

Demonstrator of Gynæcology, Medico-Chirurgical College; Assistant Gynæcologist, Medico-Chirurgical Hospital; Member of American Medical Association; Member of Philadelphia Obstetrical Society, etc.

Though spontaneous rupture of the uterus is not a very rare condition, I desire to bring a case before you, believing it presents a few points of special interest.

I am enabled to do so through the courtesy of my friend, Dr. A. P. Good, who, on the evening of Feb. 27, 1899, called me to see her with him.

The history of the case is as follows: Mrs. B.; age 23 years; married two years; well developed, healthy and having an apparently normal pelvis. On February 8, 1899, she was taken in labor with her first child. First stage lasted twenty-two hours; second stage about six hours, when she was spontaneously delivered of a large, healthy, living child. There was nothing abnormal about the labor so far as the doctor could see. It was slow, and the woman had severe pains, but not more severe, nor was it more tedious than he has often seen in first labors.

He administered chloroform the last three hours of second stage.

Placenta and membranes delivered about twenty minutes after child. There was no abnormal loss of blood at time of labor; no abnormal pain as far as he could observe, before or after the administration of the chloroform, and no collapse. She came from under the influence of the anæsthetic quickly and was strong and cheerful. After labor everything went on normally except that she bled more freely than usual for three days; it then commenced to decline, though she continued to discharge more or less pure blood till she came under my observation.

On the fourteenth day after labor she was allowed to sit up, but was so weak she could sit but a very short time each day, though she continued to sit up every day a part of the time until the twenty-first day. On the seventeenth day she was taken with a chill, which was followed by an elevation of temperature. As the doctor already had a case of ague in the house, and as the puerperal patient had been getting along apparently well, he thought he had another case of malaria

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to deal with, and prescribed the appropriate treatment. She continued to have irregular chills and fever till the twenty-first day. On the evening of that day, as I said before, Dr. Good asked me to see her with him. It was after ten o'clock at night when I reached her. She had a temperature of 104⅘° F., with a small thready pulse running over 140. She was very weak, pale and anæmic.

On physical examination, found a large, boggy uterus, a lacerated and gaping cervix, and a foul, bloody discharge coming from it.

We decided to curette as early as possible the next morning, as it was then very late and her condition bad; in the meantime directing the nurse to give her all the brandy she could get her to take during the night. The next morning, after she was under the influence of the anesthetic and on the table, I introduced two fingers into the uterus, which I could easily do, owing to the patulent condition of the cervix, and felt a substance which I took to be a portion of the membranes left behind at labor. However, on pulling it, I found it did not come away readily, but could get it far enough down to see it was a coil of intestine. I estimated at the time that there was about six inches in the uterus before I touched it.

I at once recognized that I had probably a ruptured uterus with an intestinal hernia to deal with. I immediately passed my fingers further in and found a rent entirely across the fundus, through which I could readily pass two fingers alongside the intestine. Withdrawing my fingers from the rent in the uterus, I pushed the intestine into the abdominal cavity; this was followed by a gush of blood from the uterus in a stream as thick as your little finger. I feared the woman would bleed to death before we could do anything. Happily we had plenty of hot sterile water at hand and by introducing the tube of a fountain syringe into the uterus and flushing freely with the hot water we were able to nearly stop the flow of blood.

By this time the woman was pulseless and, I thought, dying, but by the use of hypodermics of strychnia and other stimulants she rallied and at noon we had her removed to the Medico-Chirurgical Hospital, where I intended, if she rallied sufficiently, to perform a hysterectomy, which I thought would be necessary if she lived.

On arrival at the hospital she was pulseless, and her temperature was below 96° F. The next day the pulse was perceptible at the wrist, but could not be counted; temperature had returned to 104⅘° F. Third day, pulse 140 and stronger; temperature, 104° F. Each subsequent day her pulse increased in strength and volume and temperature declined till at the end of a week the temperature had returned to nor-

mal and pulse below 100. From then on her improvement was uninterrupted till April 1st, when she was discharged, well.

I did not deem her condition fit for an operation before the fifth or sixth day, when the evidence of sepsis had so rapidly disappeared that, upon consultation with Drs. W. Esterly Ashton and George M. Boyd, we decided it would be unnecessary.

The treatment after admission into the hospital was simply sustaining and stimulating, with hot bichloride vaginal douches. She menstruated normally on May 30th, and regularly subsequently till October, when she again became pregnant.

Now, the points to which I wish to call attention are: 1. The want of evidence of rupture at time of labor. 2. The length of time intervening between the occurrence of the rupture and the manifest evidence of sepsis, and (3) the rapidity with which she recovered after removal of the offending cause, the gut.

TRAUMATISMS OF THE BLADDER AND URETHRA DURING LABOR, AND THEIR SEQUELÆ.*

By Gustav Kolischer, M.D., Chicago, Ill.

In this paper I am not going to discuss the very well-known major injuries of the bladder and urethra, as lacerations of the urethra or the origin of vesico-vaginal fistulæ, but I will confine myself to the discussion of those traumatisms which are less investigated and consequently less known, because they do not produce any external wounds.

The urethra gets injured during labor by being directly bruised or by being bent through the descending of the fœtal skull.

The first takes place especially when the anterior cervical lip becomes the seat of œdema or of a hæmatoma, so that the urethra is squeezed between this lip and the symphysis. Here we have to differentiate two kinds of consequences: the direct ones and the indirect, remote sequelæ.

The direct consequences are fairly extensive hæmorrhages into the urethral mucous membrane and the reactive swelling of the urethral walls: by the injuring of the epithelial lining a permanent desire of urinating is caused, the obstruction of the canal produces retention, and

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catheterism becomes necessary. In such cases an extremely gentle catheterism performed with appropriate instruments is paramount. The catheter has to be carefully lubricated, which usually is omitted, and it has to be introduced under the control of a finger placed in the vagina. The catheter should be a straight one, with a very slight curve at its vesical end; its eye ought to be situated in the center, and its tip should be carefully polished.

I would not like to let this opportunity pass by without cautioning against the usual female catheter. These catheters have two curves: one at the distal and one at the vesical end. This construction leads directly to injuries of the upper urethral wall, while laterally situated eyes are of the following disadvantage: The mucous membrane in the above mentioned cases is not only swollen, but becomes movable towards its base, and so it might very easily happen that a fold gets entangled in one eye of the catheter, and becomes torn when the catheter is pushed forward. The same reason holds good in excluding all rotary movements of the catheter. The indirect sequelæ of this labor trauma are the lesions of the sphincter muscle and the secondary changes in the urethral walls due to the further pathologic process. In such cases the sphincter muscle as a rule succumbs to a traumatic paresis, which usually spontaneously recovers. The decursus is that at first an absolute incontinence prevails, later on a relative incontinence only is present; that is, the urine escapes only under efforts of the abdominal muscles, as in coughing or laughing; finally the complete continence is restored. In case the relative incontinence should drag along for a considerable time, electricity will furnish restoration. It is to be noticed that such incontinence appears with great intensity in individuals who suffered during their early youth with enuresis nocturna.

If the suffusions in the urethral walls are not reabsorbed, but should become organized, the subsequent shrinkage of the connective tissue is able to produce quite extensive strictures. Quite often it is possible to prevent their development. If it is observed that after two weeks post-partum these infiltrations are still present, sounds of gradually increasing size are to be introduced and an energetic massage upon these sounds has to be applied. In case strictures of this kind have already developed, we achieve satisfactory results by sounding, which has to be carried on until the whole urethra is again soft, elastic and flexible. A peculiar kind of stricture develops when hæmorrhages into the sphincter muscle have forced apart its tissue. This causes often a myositis, which in turn produces a cicatrizing contraction, terminating

in a narrow stricture at the internal orifice. Those strictures reply to dilation by bougies with extreme soreness, urethral fever, and considerable nervous reaction, and can only be removed by urethrotomy.

All the urethral lesions caused by squeezing are most likely to occur in cases of simple flat pelves. The urethra may become kinked, when the descending fœtal part carries down the posterior urethra, thus doubling up the urethra. Inasmuch as the anterior fornix post-partum does not appreciably retreat, ischuria sets in, which has to be stopped by replacing the tuberculum urethræ and by inserting a catheter, which procedure has to be controlled by placing one finger in the vagina. Thus the urethra is straightened out and the free passage of urine becomes secured by repeated catheterism. Another variety of urethral incontinence occurs if the lower urethral wall only is carried downward; this happens most likely in forcible forceps operations, whereby the vaginal fornix is very rapidly dragged down; whereby the urethra becomes funnel-shaped, the larger aperture looking toward the bladder. The posterior part of the urethra being thus distracted, gives rise to absolute incontinence. The recognition of this condition is particularly important, because prompt intervention soon restores normal functions, while overlooking it and indifference renders the incontinence permanent. The urethral sphincter very rapidly loses its functional power definitely and does not regain it, having been inactive for a certain time. After having established the diagnosis by ascertaining the lowering of the anterior fornix and by the absence of any resistance at the internal orifice when introducing a sound, one has to replace the fornix and has to support the posterior urethra by inserting a hard annular pessary into the vagina. The sphincter muscle recovers now rapidly, and the pessary is removed after the involution of the genitals has made sufficient progress.

This condition, if neglected, leaves the distraction of the posterior urethra unchanged, the sphincter loses its functional power entirely, and the incontinence remains even after the involution of the genitals is completed. This incontinence being the result of the retrograde dilation of the urethra, we cannot expect a cure from procedures usually employed, like sounding or the appliance of electricity; an operation is the only means of restoring normal functions; such operative methods are the incision after Fritsch or Gersuny's twisting of the urethra. I would like to say that all forms of urethral incontinence in puerperio assume great significance on account of the deficient sphinctereal function, which enhances the danger of infection of the bladder.

The effect of puerperal traumatism to the bladder may be divided in two groups: the traumatic desquamative catarrh, and the dislocations of the bladder.

By investigating a great number of cases I was able to prove that there is always a pronounced œdema in the bladder during labor, favoring the desquamation of the epithelial lining through mechanical insults. Or hæmorrhages into the mucous membrane, produced by violent pressure on the bladder, occur. The epithelium covering these spots is always thrown off and is not regenerated before these hæmorrhages are entirely absorbed. Such losses of epithelium cause the patient the sensation of heaviness and soreness in the bladder and tenesmus; the urine appears turbid, sometimes so much so that it looks like milk. The common diagnosis in such cases is cystitis, and astringents or caustic solutions are injected, much to the harm of the patient. One should not diagnosticate cystitis in such cases unless pus is found in the urine. In the cystoscopic view these desquamative catarrhs characterize themselves by the fact that around the denuded spots no signs of reactive inflammation can be found. It is best to leave such bladders alone; only in extremely painful cases iodoform instillations may be satisfactorily employed. Astringent or caustic injections serve only to irritate the mucous membrane deprived of its epithelium, and cause the patient considerable pain, without furnishing any benefit.

Traumatic dislocations of the bladder are produced by the descending fœtal skull, especially in operative cases, whereby the bladder is torn from its seat and dragged downward. These dislocations vary according to the degree or the totality of displacement. In those of a lesser degree we find the bladder but slightly dislocated, so that, so to speak, a rapid artificial cystocele is produced; the difference between these and the slowly formed cystocele consists in that, that in the latter the bladder cavum is always enlarged, while in the former the size of the viscus remains unchanged, the cystocele being formed at the expense of the fundus.

If the trigonum is not dislocated so far downward, incontinence does not occur, but the patients suffer from ischuria until an adequate functional hypertrophy of the bladder walls develops.

When the trigonum sinks very deep, all consequences of the distraction of the posterior urethra appear.

In extreme dislocations the bladder is completely torn from its seat and entirely dislocated downward, so that its body rests against the portio-vaginalis. In such cases complete incontinence occurs.

Three years ago I happened to examine a classic case of this kind. The patient was referred to me for examination by Schauta on account of her bladder troubles. A physician had applied a high forceps several months before and incontinence developed right after the delivery.

The examination gave the following conditions: The bladder had entirely dropped down into the vagina, resting against the portico-vaginalis; upon introducing a cystoscope in the bladder distended by fluid, the latter appeared as a glowing globe in the vagina; the endo-vesical examination showed that the urethral canal as such did not exist any more, but the bladder appeared like suspended to the external urethral orifice, while the distracted urethra without any visible border passed over into the corpus vesicæ. I will report later on the therapeutic measures employed and its result. Here I only wish to say that these dislocations of the bladder are also significant on account of the displacement of the trigonum and the lesions to the subvesical tissue, which may bring about bending of the ureters and subsequent dilatation above the place of obstruction, a complication in which a recent publication of Dudley of Chicago has thrown some light.

It is evident that the therapeutic management of this dislocation can only be an operative one. The bladder has to be dissected from its new layer, has to be replaced into its normal region, and there to be secured by sutures closing the wound in the cervix and vagina.

When, in spite of this replacement, incontinence persists on account of atrophy of the sphincter the above-mentioned urethroplastic operations have to be resorted to.

In case of the bladder descensus being complicated with genital prolapsus, the plica vesico-uterina has to be opened, the bladder pushed back over the fundus uteri, so that the latter, as Schauta calls it, carries the bladder on its back.

In the case which I have reported above, Schauta made a hemicircular incision of the portio-vaginalis, dissected the bladder out, replaced it and secured it in its position by suturing the vaginal incision. The urethra regained its normal shape, but the sphincter muscle not its functional power. A secondary operation, Gersuny's twisting, effected continence.

Searching for the cause of these displacements, and for the measures to prevent them, we find almost invariably that these dislocations have been preceded by forced forceps applications, in particular by a high forceps. This is easy to understand if we consider the conditions under which a high forceps is applied and the way in which the high forceps operation is so frequently carried out. The

lower soft parts are not prepared, the skull is not moulded yet, and not rotated. If, then, as it frequently happens, the head by few tractions and rapidly is brought down to the pelvic floor, the soft parts become seriously injured by the skull, not sufficiently rotated, pressing with the pars squamosa against the bladder, and in this way dislocation of the latter is easily accomplished. Therefore, we have to proceed very gently, especially with the high forceps. The high forceps has to be unlocked after each traction, and some time should elapse before the next traction is attempted; in this way the soft parts are gently and slowly stretched, and the head has got a chance to be moulded and to rotate.

These conditions furnish another reason for preferring the Breus axis traction forceps, which allows of more free mobility of the head, before the French axis traction forceps.

CHRONIC INVERSION OF THE UTERUS: SOME REMARKS ON ITS DIAGNOSIS AND TREATMENT.

By L. W. Atlee, M.D., Philadelphia, Pa.

In our modern text-books on gynæcology the space given to this serious affection seems hardly adequate to a complete discussion and elucidation of its diagnosis and treatment. Compare the space allotted to chronic inversion of the uterus, and that given to uterine and ovarian tumors. The comparative scarcity of inversions should not be used as an argument for this apparent neglect, for surely a disease that so frequently proves fatal from hæmorrhage, or sepsis, and when not destroying life, so affects the existence of the woman as to make her unfitted for the fulfilment of her duties in life, is one that merits all the consideration and light that past experience can throw on it.

As a number of and quite different procedures have been successful in effecting the reduction of inversion of the uterus, one desiring practical information to make use of in a case to be treated, would have great difficulty in ascertaining the conditions existing in the case where some one particular method succeeded, and would find himself compelled to consult a widely scattered literature to gain the required data.

The very fact that so many and different means have been successful in reduction of chronic inversions would give rise to the view

that for certain existing conditions, one especial method will be most likely to meet with a happy result. But beyond this, also, that there are times when the uterus can be replaced with facility is unquestionable, as is shown by the histories of a number of cases we quote from those reported in the *American Journal of the Medical Sciences* for January, 1880, by R. P. Harris.

In the first case, a young woman of 18, the nurse discovered the inverted uterus in the vagina on the sixth day after confinement. On the twenty-second day she was examined by a surgeon, who thought it was a polypus, but changed his mind a week later when it protruded some three or four inches through the vulva, but thought reduction impossible. Some two months later an examination by another surgeon showed the inversion to be reduced, but what had transpired in the meantime to bring this about is not recorded.

The second case is more complete, the wife of a French surgeon had suffered an inversion at the hands of a midwife. The surgeon detached the placenta, but did not make any effort to reduce the inversion. When too late he called in a number of physicians to his assistance, but to no purpose. At the end of eight months, on getting out of bed to take an enema, she slipped and fell, and as a result reposition was found to have taken place. At the instant of falling she felt an extraordinary movement in the lower abdomen, accompanied by severe pain, and this was followed by syncope and hæmorrhage. The cervix was found free and the finger could be introduced deeply into the uterus.

The third case is still more remarkable. A primipara in 1782 gave birth to a child after a natural labor, the uterus being inverted during the delivery of the placenta. She fainted from loss of blood. The accoucheur, fearing her death, did not attempt to replace the organ, and she remained with the uterus in this condition for eight years, during which time she consulted many physicians. In 1790 she consulted Bandelanque, who found the uterine projection the size of a medium hen's egg. He tried to reduce it by the bimanual method, and could force it in about one-half, but it was too painful a process for her to endure. He desisted, when the fundus returned as before. Three days later, in walking in her room sustained by friends, she fell. The uterus, as in Case II., became replaced. She likewise experienced a peculiar ventral movement, accompanied by an acute pain, and fainted for a moment. Dr. Bandelanque was summoned and found the parts as in Case II. For the first time in eight years the patient was free from the loss of blood, a condition that

seldom existed for more than a few hours during the inversion. Being a widow of 28, and recovering her healthful condition perfectly, the patient married a second time and gave birth to a child at full term. This case brings in evidence the extraordinary power the uterus possesses of preserving its perfect physiological functions during a long-continued state of inversion, and should convince us of the absolute necessity of making use of all the resources of our art to reduce an inversion, and never to desist and give it up as hopeless, as we so frequently read of its having been done, abandoning the unfortunate patient to her deplorable condition.

Cases IV., V., VI. and VII. are of women in whom the uterus was found inverted, and where the inversion reduced itself unperceived by the patient. The attending physician attributed the reposition in the seventh case to "the traction of the round and broad ligaments during the repeated defecations (she had a severe diarrhœa), aided by her continual lying in bed."

The eighth case was a primipara, 23 years of age; the inversion discovered on the fifth day; reduction tried on the seventh day was unsuccessful. Two days later the uterus was found in the same condition, but in repeating the examination eight weeks after the accident the uterus was found completely restored. The woman noticed that a change was taking place two weeks before this, and that the tumor was receding and becoming smaller. This change continued until she could no longer reach the tumor.

Among other remarks on these cases, Dr. Harris says: "The condition of the uterus must have much to do with the final success or failure" (of operative measures for replacement). Further on he states: "It is evident that there are favorable and impossible periods for the effort of reposition. The favorable times would appear to be: (1) Immediately after the accident, and before the cervix has become contracted; (2) at the end of seven or eight weeks, when involution has altered the density of the organ; and (3) when a succession of hæmorrhages shall have rendered the patient thin, pale and anæmic, and her tissues soft and yielding. If falls, posture of the body under ether (relative to a case to be mentioned later), frequent defecation in diarrhœa, and perhaps the marital relation, are capable of replacing the uterus when softened in tissue, then mechanical pressure should be tried with a reasonable hope of success, under a similar condition."

In the same number of the above mentioned journal is an article entitled "A Case of Inverted Womb, with Supposed Malignant Disease of Its Fundus; Its Easy Reposition, and Removal of Old Placental

Tissue; Perfect Recovery of the Patient," by Walter L. Atlee of Philadelphia, and in which he repeats the following: "My father, Dr. John L. Atlee of Lancaster, told me that many years ago, before the use of anæsthetics, he was called to visit the wife of a farmer, in consultation with her physician, in order to effect the reduction of an inverted womb. All their efforts were unavailing, when, eleven months afterward, to his astonishment, he learned of the happy delivery of the patient of a healthy child. The stout husband, using his own exclusive rights, had succeeded where physician and surgical appliances had failed. We may well exclaim with Celeus: *Sed vulvæ natura mirabilis; cum in multis aliis; cum in hac re quoque facile cognoscitur.*"

In the "Transactions of the Gynæcological Society" for 1884, Dr. J. C. Reeve reports the following case: "S. H., age 22, single, domestic, sent to Charity Hospital August 16, 1871, as a case of procedentio uteri. Patient has always had excellent health; menstruated first at 13; has been regular ever since; never had a discharge of any kind from vagina or uterus; never had sexual intercourse. She had always been a chamber-maid until June last, when she took service as a cook, and was obliged to carry coal from the cellar. After a month she had dragging pains in the hypogastric region, soreness of the vulva, and was easily tired. She noticed something projecting through the labia majora, and had a thick, glairy secretion. Her general health became impaired. When admitted, it was first supposed to be a case of simple prolapsus with elongation of the supravaginal portion of the cervix. On more close inspection it was recognized as a partial inversion of the body of the uterus, with prolapsus. The hymen was intact. The inverted part was covered with a glairy secretion and the mucous membrane had a red, villous appearance. The sound, on being introduced at the lower part of the tumor, showed three inches of the fundus; from the transverse orifice to the os tincæ, one and three-fourths inches; from the orifice to the vulva, two and one-fourth inches. The patient was kept in bed to see how far nature would aid in restoring matters to their natural condition. By October 1st the uterus was normally placed, movable, and measured two and three-fourths inches. Its spontaneous reduction, and its replacement to its normal standard and measurement, and its attaining its natural position in the pelvis, are points of much interest for investigation and observation."

This case sets forth two facts worthy of note: that the uterus can become inverted without such factors as its condition after labor or

a fibrous polypus, and also the value in this form of inversion of rest in the recumbent posture to reduce it.

In the above mentioned paper by Dr. Reeve I find the report of another case which is of great interest from the fact, also, that it occurred suddenly and not in the parturient state; and also from the point of the diagnosis of inversion of the uterus. "Case III. is by Gaillard Thomas; the history furnished by Willard Parker. A young woman who had born one child seven or eight years previously, and had never had any recognized uterine disease, while making a violent effort in rolling ten-pins, suddenly felt something give way within her, after which she suffered the most intense pain and became completely disabled. Dr. Parker, being called to see her, after a hasty examination, coincided with the opinion of the attending physician that a polypus had been suddenly expelled and was hanging in the vagina. Impressed with this belief, he removed the whole mass, when, to his surprise, he found that he held in his hands the inverted uterus with its tubes and ligaments. The patient recovered."

That an uncomplicated case of inversion of the uterus can be mistaken for a polypus seems hardly credible, but a survey of the literature of this subject will convince one of its frequency; even the most eminent gynæcologists have erred in this. At the International Medical Congress held in Philadelphia in 1876, Dr. Washington L. Atlee presented a specimen from a case in which he had mistaken an inverted uterus for a polypus, and had removed the organ.

Dr. W. T. Lusk of New York reported to the Gynæcological Society in 1887 a case of great interest bearing on this point: "Several years ago I was invited, in company with a number of my hospital colleagues, to examine a supposed case of uterine polypus. When it came to my turn to investigate I found that, by making suprapubic pressure downward and backward upon what had been regarded as the fundus of the uterus, and then introducing my finger into the rectum, it was possible to distinguish easily through the rectal wall a funnel-shaped opening which plainly communicated with the tumor in the vagina. I therefore pronounced the pyriform body to be in reality an inverted uterus. This opinion was received at the same time partly in ridicule and partly in anger by the other consultants. Afterward it was made a personal matter that I should be present at the removal of the fibroid. To this end an écraseur was applied. As the chain was tightened I could not keep silence, but strenuously protested against what seemed to be a dangerous trifling with life. One or two of the spectators joined with me in asking for a delay. To this assent was finally given

on the condition I would promise on a subsequent occasion to replace the organ. This derisive challenge I accepted, and a few days later was called upon to redeem my promise. The patient was placed under ether and various methods of taxis were employed. In time the cervical ring softened, indentation of the body in the neighborhood of the tubes was easily effected, and it seemed as though my efforts were on the point of being rewarded with success. Owing, however, to the loss of power resulting from fatigue and the cramped position of the fingers, I invited a colleague to temporarily take my place. He was a firm believer in the fibroid character of the tumor, and as he manipulated it, explained to the bystanders the reasons for his opinion, when, to his immense surprise, the fundus suddenly retreated, and the restoration of the inverted organ was complete."

If the diagnosis of uncomplicated inversion is not a difficult matter to accomplish, it is a far different problem to solve when the inversion is attended with a polypus or to diagnose a large polypus filling the vagina from an inverted womb. In the same article quoted from above, Dr. Lusk remarks: "Then the distinction between inversion and polypus is not invariably easy. In making the differential diagnosis, stress is usually laid upon the presence or absence of the fundus uteri at the pelvic brim, upon detection of the funnel-shaped opening in inversion either by bimanual examination or by rectal exploration, and upon the determination of the site of the implantation of the tumor. It often occurs in practice, however, that it is impossible to recognize parts of pelvic organs by palpation, owing to the thickness of the abdominal walls. Rectal exploration may be defeated by the size of the tumor, and it may happen that even under profound anæsthesia the operator may not be able to reach with the fingers or to ascertain by instruments the point of attachment of the pedicle. At the same time the two bodies often feel deceptively alike. Yet a mistake may cost a woman her life, or consign her to years of invalidism." He narrates a case which I will quote in full, in which he made use of a procedure that met the requirements for diagnosis where every other means of establishing it had failed. "In the month of Sepetmber last (1886) Sarah Dudley, aged forty-two, the mother of eight children, entered my hospital service suffering from dysuria and uterine hæmorrhage. Her last child was born five years previously. The symptoms of which she complained had occurred intermittently for three years, and at times had already compelled her to seek assistance in the hospital. On examination a large pediculated tumor was found occupying the vagina. The patient was anæsthetized, and the rela-

tions of the growth were carefully investigated. But the abdominal walls were thick, the attachment was beyond the reach of the fingers passed into the vagina, and the size of the growth interfered with the palpation of its upper surface through the rectal walls. The history pointed to a fibrous polypus, but the tumor was soft and compressible, and upon resorting to taxis a partial replacement was apparently accomplished.

The day following the patient insisted upon leaving the hospital. She then wandered from one clinic and hospital to another, her case exciting considerable interest; but nothing was done for her relief, owing to a reasonable doubt concerning the diagnosis. In April of this year she returned to Bellevue Hospital, feeble, exsanguinated, and extremely discouraged, professing a readiness to consent to anything that might be proposed.

I therefore, in the presence of the medical class, after anæsthetizing the patient, made a small incision through the abdominal walls a short distance above the pubis, and inserted my index fingers for purposes of exploration. It was easy in this way to determine the presence of the fundus and establish the diagnosis of "fibroid polypus." The abdomen was closed, the polypus removed with the écraseur, the patient making an excellent recovery.

Dr. William Goodell, in discussing these cases of fibroid polypus in the vagina, and the difficulty of diagnosing them from cases of inversion where the tumor was very large, filling the vagina, related the following case in which he made use of a very practical procedure: "An unmarried woman, apparently a virgin, between thirty and forty years of age. The tumor was about the size of the fœtal head. I made extensive lateral incisions, but despite them the perinæum was torn extensively. However, when the tumor was delivered I found a line of demarkation, and in that case it was unnecessary to use any instruments for its removal. The amount of traction in its delivery was as great as that necessary to be exerted in a hard labor case. I was enabled to enucleate the tumor with the finger-nail without the slightest difficulty. I then stitched up the perinæum, and the patient made an excellent recovery."

In the case above referred to by Dr. Walter F. Atlee, the remains of an adherent placenta to the inverted uterus gave rise to an error in diagnosis, and but for the happy return of the organ in the genu-pectoral position, would have resulted in the unnecessary mutilation of the patient.

Dr. Atlee writes: "I was called to visit, in September, 1879, Mrs.

E———, residing in this city, in Eleventh Street below Fitzwater. I found a woman of medium size, very anæmic and extremely thin. She was twenty-nine years of age, and had been married eleven years, and had had three living children. Three years before I saw her she had had a miscarriage, at six and a half months, brought on by heavy lifting. At the time of this miscarriage there was a flow of blood for one week, once every day. She stayed in her bed for this week, and at the expiration of that time the fœtus was expelled; it lived about two hours. After the child was out the discharge of blood was very slight. The patient knew nothing of the afterbirth. Since this miscarriage the patient had never been well, being subject to irregular discharges of blood, amounting often to profuse hæmorrhage.

"On passing the finger into the vagina, at a distance of about one and one-half inches, an irregular body was encountered feeling like a fungoid growth; pushing on between it and the vaginal walls, a ring of smooth tissue was met with about one-third of an inch in breadth, and beyond it was the mouth of the womb. The uterine sound entered about a half inch when passed beyond the mouth of this ring of smooth tissue. When the finger was passed into the rectum no fundus uteri was felt; it came in contact with the finger pressed over the pubes as if only a few sheets of paper intervened. There was a good deal of thin, bloody, bad-smelling discharge coming from the vagina, that was increased by the examination. The case was diagnosed as one of inverted womb with cancerous disease of the fundus.

"On September 27th the discharge from the vagina was so profuse that the patient lost consciousness and was supposed to be dying. It was arrested by a sponge soaked with Richardson's styptic, passed into the vagina. The pain caused by this application was very severe. The removal of this inverted womb seemed to be urgently demanded, and I determined to perform the operation, choosing for the purpose an écraseur with very strong piano-wire. On the following Tuesday (September 30th), assisted by Drs. Agnew, Penrose, Hunt, Harris, Hickman, Baker, and Boardman Reed, I made ready to perform this serious operation. In order not to arouse hæmorrhage the condition of things in the vagina was not investigated this morning by any one. By his finger in the rectum, Dr. Agnew made sure that the fundus of the uterus could not be felt; that inversion still existed. The patient having been made insensible by inhaling a mixture of chloroform and ether, was placed in the knee-chest position, and a Sims speculum was introduced into the vagina very carefully, lest the diseased mass it contained might be bruised. To my amazement, when the speculum

was pulled up there was nothing whatever unusual to be discovered in the canal. At the bottom was seen th eos tincæ quite open; the finger pushed into it felt plainly a fleshy mass that was easily removed by Penrose's forceps. This mass was of irregular size, about one-half an inch in thickness and one inch and a half in breadth. Several small pieces that adhered to the left back part of the fundus of the womb were removed by blades of the forceps, used as a curette. The womb could now be felt plainly by the finger in the rectum, and by pressing over the pubes, to be in its normal position. The fundus was evidently thin and soft. There was no hæmorrhage during the operation, nor afterward, and the patient made a perfect and rapid recovery. The mass removed appeared to most of those who saw and examined it to be the remains of the old adherent placenta. Under the microscope I could make sure only that there was nothing whatever malignant about it; its anatomical elements were those of normal cellular tissue."

In his remarks on this case, Dr. Harris writes: "The unique character of Dr. Atlee's case lies in the manner of reposition, and the peculiar circumstances under which it took place. We all know the effect of opening the vagina in the position in which the patient was placed; how the abdominal viscera act as the piston of an air pump in producing a partial vacuum, and the effect of this in elongating and distending the vagina. When the patient is rendered passive by anæsthesia, and the abdominal muscles relapsed, we can easily understand the action of suddenly elevating the breech, so as to throw the abdominal viscera toward the diaphragm, in producing a decided suction upon and replacing a thin, soft, and pliable inverted uterus, such as existed in this anæmic patient."

The history of this case suggests the probable value of this position in the reduction of a uterus made thin and lax by frequent hæmorrhages and the debility of the patient thus brought about. The absolute necessity in such a case of removing small bits of the diseased structure and subjecting them for examination to a skilled microscopist needs not mention in the light of modern procedures.

In chronic inversion of the uterus the two most common obstacles to be overcome in its replacement are the density of the uterine tissues and the constriction of the circular fibers at the neck. The various methods that have been successful in overcoming the obstacles in some cases and have failed in others make it evident they are useful and to be recommended in particular instances. The oldest method practiced was the so-called "taxis," and which frequently failed in cases

which we might call of hyperinvolution. The most difficult element to overcome further than those already mentioned in using this procedure is the laxity and delicacy of the tissues of the vagina. There is no fixed point to push against, the suprapubic counter-pressure is calculated to hinder the very process we wish to bring about. It is not practicable to catch hold of the tissue, about the os, for when this was attempted the instrument tore through the frail structures. This same extensibility and the great danger of lacerating the vaginal tissues make the employment of such instruments as White's repositor objectionable. In those cases where the fundus protrudes from the vulva, it would be practicable to use the cup-shaped repositor with slow pressure by the elastic bands, which has safely and successfully been employed.

Courty of Montpelier, in his "Traité des Maladies de l'Uterus," Paris, 1880, describes a method he has successfully used to reduce cases of chronic inversion, in which the taxis as ordinarily employed had failed; this method to be used in those cases where the uterus is in a state of compete involution, he describes as follows: "I have arranged the different steps of the operation in the following manner. To be able to grasp the neck of the uterus, the latter must be drawn down out of the vulva with Museaux forceps. Then the index and middle fingers are introduced into the rectum and bent forward in the form of hooks; we immobilize through the rectal wall the neck of the womb. Seizing the uterus with the other hand, still keeping our grasp of the neck of the womb through the rectum, we return it into the vagina, and holding the fundus in the palm of the hand, lift it toward the pubis, the neck looking toward the sacrum, still held there by the fingers in the rectum, which are now separated and forced into the sulcus formed by the utero-sacral ligaments on each side at their insertion into the neck of the uterus. These ligaments are stretched tight and feel like the strings of a guitar. Then, with the thumb and index finger in the vagina, we make pressure on the pedicle of the tumor in such manner as to increase little by little the depth of the utero-cervical sulcus, in making the efforts of taxis on the tumor coexistent with the immobilization of the neck, a condition permitted by the simultaneous play of the two hands. As we proceed we feel the returning and reduction of the uterus take place, little by little, slowly, without violence, and complete itself in a few minutes."

In discussing the subject of the treatment of chronic inversion of the uterus, even in this brief way, it is impossible to pass on without mentioning the use of the colpeurynter in these cases, and though it has been accused of being unbearable in many cases, and of having

caused sepsis, there always remains the possibility of its having been used in ill-advised cases, and in an improper manner. W. H. Byford ("Chronic Inversion of the Uterus," "Gyn. Trans.," Vol. IV.) is a strong advocate of this instrument, and in comparing its action with that of rapid reduction, either by the taxis or by White's repositor, says: "If sufficient pressure is made to overcome the constricted cervical and corporeal cavities suddenly, the dilatation is wholly mechanical and must be effected by violence to the parts concerned. But if the pressure is moderate and continuously applied for a comparatively great length of time, the dilatation is due somewhat to mechanical pressure, but very largely to physiological expansion. The pressure exerted by the latter (colpeurynter) expands the whole vagina in such a manner as to make the traction of the vaginal wall perpendicular to its insertion in the cervix, while the uterus is elevated in a very direct manner, and in the line of its axis. It will be seen also that there is no need for the counter-pressure above the pubis." Dr. Byford used this instrument with success in three cases. He describes his manner of using it in one case as follows: "An elastic bag four inches long and when distended three inches in diameter, with a tube attached, was selected as the main instrument. When collapsed this bag presented a quadrilateral shape, larger in the center, and slowly tapering toward the ends. I selected a sac of this shape because it filled the vagina from the vulva to the bottom of the fornix, and when introduced one of the faces reached the fundus in such a manner that the organ would not easily slide over its sides. As the bag was slowly distended the fundus produced a depression in which it was firmly retained when the sac was filled.

"I introduced this bag while empty, so that it lay on the posterior wall of the vagina, and carefully adjusted the dependent fundus so that the body was in a line with the axis of the superior strait. Water was slowly injected until the distension produced a sense of discomfort. The distension was kept up for twenty-four hours, when the water was permitted to flow away. The instrument was removed and cleansed, and again replaced and filled. The first time it was removed an evident softening of the cervix was noticeable and the body could be pressed slightly into it. From day to day the softening and dilatation became greater, and upon the removal of the instrument advance was ascertainable. Upon removing the bag, on the seventh day, I found that the uterus was in a state of complete inversion, and all progress seemingly lost. With the finger, however, I could easily press the fundus entirely into the dilated cervix, thus assuring myself

that the work of reduction was almost complete. A more careful adjustment and careful distension of the bag was effected, and on the removal of the instrument on the eighth day it was found that the fundus had mounted to its normal position. The sound was introduced two and a half inches. The patient improved in strength and became more comfortable from the commencement of the treatment. After the three first days she was up during a part of the day, and on the seventh and eighth was about the room, and in addition to keeping the room in order, she gave her child all the attention it needed. I have no doubt that she was perfectly truthful in her assertion that the treatment gave her no inconvenience except at the time and for a few minutes each time after the adjustment of the instrument." In this case "the vagina was very capacious, and depending from its roof was a small, very firm uterus. The involution seemed to have been conical beyond the ordinary degree. It was in a state of hyperinvolution."

In his concluding remarks he says: "From my own observation I am convinced that most, if not all, the failures to reduce the inverted uterus by elastic pressure are attributable to the want of judicious adaptation of the force, and lack of perseverance in its use. I do not think it desirable to apply an amount of force that will give the patient great inconvenience, or risk damage to the pelvic organs. The attempt should not be to reduce the organ in a short time, but to overcome its rigidity by long-continued and gentle pressure."

Courty, in his treatise above referred to, mentions his having been successful in reducing some cases of inversion when the obstacles were mainly owing to the constriction of the circular fiber at the neck, by making incisions the whole length of the neck of the womb. Superficial, anteriorly and posteriorly, to avoid the vessels, he also states he has employed the making of numerous very superficial incisions, the entire circumference of the neck. He attributes the origin of this procedure to Barnes.

In the *American Journal of Obstetrics and Diseases of Women and Children,* Vol. XLI., No. 1, 1900, Dr. Barton Cooke Hirst reports a case in which, having failed by the taxis to replace the womb, he resorted to the following operation: "The cervix was cut in two in the median line posteriorly, the incision being carried higher on the internal than on the external surface. The ring muscle being almost, if not completely, severed without opening the peritonæal cavity. Then comparatively light pressure with one finger tip on the lower uterine segment just above the upper angle of the wound, reinverted the uterus easily. The cervix was then joined again by sutures. The whole

operation scarcely required fifteen minutes. The patient made an afebrile recovery, and the uterus remains in good position."

To sum up, it has been endeavored in this paper to show by the history of chronic inversions of the uterus: (1) That there are times more favorable than others for its replacement. (2) That for each individual case some one particular method will be the most likely to be successful; and (3) to demonstrate the great difficulties which may be encountered in certain conditions, to the establishment of a satisfactory diagnosis, and to bring into review some of the procedures which, in the hands of the most experienced men, have overcome them.

In closing we will remark it was not with the intention of appearing to have brought forward any new matter on this already much discussed subject that this paper was written, but to throw more light on, and lay stress on, certain points in regard to it, which are not generally, as we think, made sufficiently clear in the chapters devoted to it in our modern text-books on gynæcology, and which are consulted for practical information on this most important subject.

758 South Fifteenth Street.

TREATMENT OF GALL-STONE.*

By S. C. Gordon, M.D., Portland, Me.

The treatment of gall-stones by operative means is almost entirely modern. Fifteen years covers nearly all that has been done in this direction. Surgeons rarely attempted "gall-bladder surgery" much prior to 1885, at least it was not accepted as one of the legitimate operations. The few that were bold enough to make the exploratory incision were looked upon with more or less suspicion, and the early operations seemed to justify the suspicion that the operators were more bold than discreet. While abdominal incisions "below the belt" were looked upon as safe many years before this, under the belt, or above, was considered the land of "thus far and no farther."

The older writers of medicine considered the gall-bladder and its diseases as purely within their domain, and to be treated by all sorts of medicine, from sweet oil to sulphuric ether. More recent writers advised alkaline treatment, and a carefully arranged dietetic course. Much was done in this way, and either on account of medicine, or in spite of it, many cases of well-marked biliary colic ceased, not to return. A certain percentage died from causes which, all now know, could have been relieved had the operation been done at an early stage of the disease.

Prior to fifteen years ago I had seen many cases where repeated attacks had come and gone, the patient finally recovering entirely—"outgrown" the disease, to use a familiar expression—the fact being that some change had taken place in the economy whereby the tendency to such formations had ceased. I do not recall a case where death occurred, in my own experience or observation, that would have been prevented by surgical interference.

That formation of gall-stones or at least colic has increased very much within the past ten years I believe is well known to every practitioner of large surgical experience. I think this is as apparent as that appendicitis has increased many fold in that time, and, in my opinion, due to the same cause—*the extensive spread of la grippe.*

Certainly pathogenic germs of all kinds have rapidly multiplied in that time, giving us diseases of every organ in the human body,

*Read before the Maine Medical Association, June 14, 1900.

and markedly so in the nerve centers and alimentary canal. That gall-stones have existed for years (in the gall-bladder) and have not given any evidence of their existence, must be plain to all of us who have done much gall-stone surgery. It was only necessary for some one of these pathogenic germs to become active and wake up inflammation, which was attended by severe pain, either in the gall-bladder or its duct. Such attacks may have been months, or even years, apart, while in the interval the stone may have remained in a quiescent state, the patient experiencing but little difficulty beyond an occasional dull pain or intestinal indigestion to a greater or less degree.

The evidence to substantiate the truth of the above statement is found in the fact stated by some pathologists that gall-stones are found in 40 per cent. of all autopsies. If this statement be approximately true it follows that in many cases gall-stones produce no serious disturbance, except at intervals; also, that an attack may be followed by years of freedom, the patient dying from some other cause, thus leading to the belief that a cure had been accomplished.

In my opinion, in this fancied security lies the serious condition we have so often found at a time when operation was demanded, and made. Unless the stone is so large as to be fixed either in the cystic or common duct, or the bladder becomes infected, thus giving rise to inflammation, one or many stones may remain in the bladder, and the victim be comparatively well.

Halstead, in a report just issued from Johns Hopkins, cites a case of a patient upon whom he operated, that had his first attack twenty-one years before. His third attack, which occurred a month before, the temperature reached 106°—cultures showed pure bacilli coli com.

There are many instances on record where stones have ulcerated through duct and intestine, and escaped per rectum, and subsequent operation showed only the slightest traces of the opening. In other cases such fortunate escape does not occur, and the parts around the duct and intestine, as well as all the structures about the gall-bladder, are changed. Inflammation also of the bladder itself produces trophic changes, so that we find it sometimes very large and filled with pus or serum, or exceedingly small and hardened.

In short, in many of these long-standing cases, the normal physiological and anatomical conditions are completely changed. The duct and blood-vessels are thinned, and all the tissues are so changed that ordinary manipulations tear them, and hæmorrhages, either primary or secondary, are not uncommon. Fæcal fistulæ sometimes follow

operations, and in not a few instances anastomosis becomes necessary to restore the functions of the parts.

A large part of these complications could be obviated, and the mortality greatly reduced if operations were done early, before infection and consequent inflammation takes place. Within the past six months I have had five cases under my observation and care which illustrate many of the forms alluded to. Four of these I have operated upon myself, and the fifth, although an old patient of mine for several years, was operated upon by Dr. J. F. Thompson, during my absence in Europe in September last.

This case I saw first in June, 1893. She was then about forty years of age—a strong, healthy woman in all respects, except an occasional attack of biliary colic. An older sister had died several years before, and post-mortem showed impacted gall-stones, which were said to be the cause of death. I know nothing from personal observation, however. My patient was promptly relieved from this attack in June, 1893, and had no more trouble until January, 1894, when she had repeated attacks and was ill during January, February and March. Jaundice, localized peritonitis, and very general intestinal disturbance were more or less constant during these months, while the colic attacks were quite frequent, and at times very severe, requiring large doses of morph. to relieve her.

The remainder of 1894, and all of 1895, she was very well, being entirely free from any symptoms referrable to the liver, until the last days of December, 1895, when she had another attack, which troubled her considerably during January, 1896.

After her three months of suffering in 1894 I advised operation, which she declined at the time, and inasmuch as she was so well during the following two years (or almost two years) we both hoped that she had completely recovered from the tendency.

She spent the summer of 1894 in Europe, and was perfectly well; from January, 1896, until October, 1896, she was again well and spent that summer in Europe. In October and November, after her return, she had one or two attacks, but not so severe as in 1895.

From November, 1896, until February, 1899, she was entirely free from any trouble, and Dr. Maurice Richardson, who saw her in 1898, and had a full history of the case, strongly advised against operation, and I am sorry to say that I coincided in that opinion.

Here was a period of more than two years of good health, and I dreaded to say to her, You must have the operation.

The winter of 1899 she suffered from nausea, and was quite an

invalid a large part of the time, but no colic attacks, although some local peritonitis, which I believe due to gall-stone complications, but in May following she had a very sharp, severe attack.

In June and July she seemed better again, although suffering from some pain and nausea. While I was away she grew worse, and Dr. Thompson took her to Boston to again see Dr. Richardson, who advised an exploratory incision at once, which was done.

I am unable to give the condition found, as the doctor can hardly tell just what the actual relation of the parts were, so much was everything changed by inflammation and its results. He thinks that there had been an opening from the duct (either cystic or common) into the intestine, and escape of stones. The stomach was drawn to the right by adhesions, and all organs misplaced.

She lived about one week, and died from sepsis, probably consequent upon rupture of intestine. I feel that had she consented to operation in the early stage, her life could have been saved. I regret that I did not more strongly urge it.

Case II.—Miss U., aged 28; a patient of Dr. Sanborn of Waldoboro. The doctor diagnosed gall-stones from one attack, which he had seen, and a history of two others within a year. I saw her in December last, and could feel a small bunch over the gall-bladder region. She was not jaundiced, but had had local peritonitis. An incision brought the bladder at once into view, but slightly adherent to omentum and liver. On opening it there was a small amount of sero-purulent fluid and some caseated pus adherent to its walls. It also contained twenty-eight small gall-stones, and one too large to pass the duct. The bladder was of good capacity, and the walls of good integrity, well supplied with blood, with the cystic duct patulous, so after washing it out with a bichloride solution 1-2000, and swabbing the sides with small sponges wrung from the same, I closed the opening into it, dropped it back, and closed the abdominal incision.

She made a perfect recovery, and has had no trouble whatever since.

I am well aware that this is rather unique treatment, but one who has followed these cases after operation, and waited for the cessation of the biliary fistula, will be only too glad to close it if at all safe.

I see no reasons why such a case as this should not be closed. The result speaks more than theories. I shall repeat this method under equally favorable conditions.

Case III.—Miss H., aged 17. Had suffered from three well-marked attacks of biliary colic. Patient of Dr. Coombs of Waldo-

boro. The patient being under ether we could feel a well-marked, hard bunch in the region of the gall-bladder. Incision revealed not only a distended gall-bladder, but evident malignant disease of the liver, much modulated, quite hard, and much hypertrophied. The condition was so grave we deemed it not best to attempt opening the gall-bladder, as it was very adherent and so much distended by fluid as to make it difficult to detect stones, so the abdominal incision was closed after breaking up the lesser adhesions.

She vomited very much for a week, but gradually recovered, and she has been entirely free from pain of any kind, and the liver cannot be felt at all. Her general health has much improved, and the doctor telephoned me a week or two ago that she was able to do quite a good deal.

I have no doubt the manipulations changed the condition for a time. How long it will last we are unable to say.

Case IV.—Mrs. D., aged about 60. Has suffered more or less from colic attacks since fifteen years ago. Has had several years of interval without any pain. Has traveled a good deal; lived in Europe two or three years, and was perfectly well all of the time. Within the past year has had three or four severe attacks, accompanied by peritonitis of quite severe type.

I advised operation several years ago, but being unwilling to have it, on account of such long intervals of good health, I did not insist until this winter, when a second, of two very severe ones, coming near together, decided her to submit, and December 18th I operated, and removed one large stone. The adhesions of the gall-bladder were quite extensive and strong to omentum and liver. I sewed the bladder to abdominal incision, closing wound below, and in just four weeks the fistula closed, and the patient returned to her home. I believe that this case could have been closed with perfect safety.

Case V.—Mrs. H., aged 64. Had suffered for about fifteen years from repeated attacks of intestinal indigestion and jaundice. A constant invalid.

Within about a year she has had several attacks of biliary colic, jaundice of a deep hue, and general emaciation due to lack of appetite and digestion. I operated February 17th and found adhesions everywhere. With much difficulty I succeeded in finding the atrophied gall-bladder, which was buried under the colon. It contained several small stones, and the common duct contained one large one, which I had difficulty in removing. The parts were so much changed by inflammation that it was almost impossible to separate them. I re-

moved the bladder and stitched the duct to the abdominal wound. She did well for a week, when a most profuse hæmorrhage came on, and she died from repeated attacks within the next twelve hours.

I feel sure that had this operation been done years before, that her health would have been restored and life much prolonged.

Dr. C. O. Hunt, Superintendent of the Maine General Hospital, reports a series of operations for gall-stones at the hospital for several years past, and in each case where the bladder was closed the result was much better than where it was left open and drained. The abdominal wound, however, was not closed, but in no one of the cases did any leakage occur from the gall-bladder, showing that it would have been safe to have closed the wound.

These cases reported, and quite a number of others operated upon previously, led me to the following conclusions:

First.—Operations should be performed after it is well established, by repeated attacks, that gall-stones are present.

Second.—Gall-stones may be present in the gall-bladder for years without giving colic, but are a cause of more or less digestive disturbance and impairment of the general health.

Third.—From my experience in one or two cases, and from reports from the Maine General and other hospitals, I am satisfied that many cases are better treated at the time of operation, by closing the bladder, dropping it back into the cavity, and closing the abdominal wound.

Fourth.—Cases treated by drainage are, in many instances, slow to recover, and liable to be left with biliary fistula for a long time.

Fifth.—Great care should be used to cleanse the bladder before closing it, rendering it as nearly aseptic as possible.

Sixth.—While cases of recurrence of gall-stones may follow operation, I believe they are no more liable to after closing than after drainage.

157 High Street.

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EDITORIAL.

SOME POINTS IN THE ÆTIOLOGY AND PROPHYLAXIS OF SUMMER DIARRHŒA.

Dr. F. J. Waldo in the Milroy lectures recently reported in *The Lancet* has given us a very exhaustive study of summer diarrhœa; especially in regard to ætiology and prophylaxis there are a number of points that deserve careful consideration. Hitherto comparatively little significance has been attached to the communicability of the disease. This communicability seems entirely possible though it must depend upon close personal contact with an environment infected with diarrhœal stools, in much the same manner as is necessary in the case of typhoid fever. To quote the writer: "In the case of enteric fever medical men are so used to tracing the disease to the agency of water or milk that they are apt to overlook such obvious sources of danger as that of a poor patient lying day after day in bedclothes and bedding soaked with bowel discharges." This may be the case in England but we should be sorry to think that such a statement would apply to medical men in this country, though it is only fair to admit that in certain circumstances physicians are quite unable to control the surroundings of their patients. However that may be, granting that summer diar-

rhœa may be communicated in the same manner as typhoid fever, many things would favor such an occurrence. The patients being chiefly infants, their evacuations are much more liable directly to infect their surroundings; the hands of their attendants become soiled and in turn pollute furniture, door handles, everything with which they come in contact; while the washing of the diapers in or near the house must create many fresh sources of infection. So although it is difficult in a given case to show in what particular manner the disease was communicated we can feel reasonably certain that, especially in families or in hospital wards, it is frequently in some one or more of these ways that the spread of infection has taken place; and that by the elimination of all these possible factors of contagion by as careful methods as are followed, in this country at least, in the hospital treatment of typhoid fever we may very materially limit such contagion. Clinically, the fact that better conditions, cleaner wards, more separate rooms and a greater number of attendants result in fewer and less serious epidemics points to the same conclusion. While we agree with the writer that the communicability of the disease must play a small part in its ætiology compared with the existence of some common source of infection, precautions in this regard should not be neglected upon such grounds; for the avoidance of even a few cases is amply worth while and, so long as our knowledge of the bacteriology and ultimate causes of the disease remains so unsatisfactory, it is fitting to eliminate all sources of infection that are even possible.

The point which the author most desires to emphasize is that already advanced by many observers, namely, that polluted dust is the chief source of infection. But he makes it with this modification, that it is the surface dust that is at fault rather than the deeper layers of the soil, however much the latter may be contaminated with organic matter. He believes also that the specific polluting element of this surface dust is horse dung. Such an hypothesis, while at present unsusceptible of proof, would amplify the explanation of many facts hitherto noted in connection with the ætiology of the disease. In the first place, as to the greater prevalence of summer diarrhœa in towns and cities, though it is true that country roads are more dusty than city roads (being in general macadamized—in this country not even that—while city streets are usually paved), the dust remains fairly clean; but there is no lack of dust in city roads, whether paved with asphalt, wood or stone; it is made up of small particles worn from the surface by the continual attrition of vehicles and horses' feet, of the gravel with which at times the streets are sprinkled, of the soot and dust of the atmosphere but

chiefly of horse dung, which latter element marks the essential difference between city and country dust. The effect of rain is to convert this dust into mud, part of which is washed away and part of which is splashed by traffic upon adjoining walls and buildings, to be reconverted into dust with the coming of dry weather; while the sweeping of dry streets raises clouds of dust sometimes as high as twenty feet. Streets with an impervious pavement like asphalt of course collect the dust less and are more readily cleansed than those paved with wood or stone; while macadamized streets, when such exist in a city, give rise to much more dust than paved streets and to dust that is far more polluted than that of country roads and permit of little really efficient cleansing. Again, if the streets be narrow, the sunlight, to whose germicidal power considerable importance has been ascribed, is unable to penetrate into them; in any case its influence is slight upon dust in thick layers or lying in crannies. All this dust then is blown about and otherwise disseminated as widely as possible, penetrating into houses and even into larders, so that it is not remarkable that all foods and especially milk, which forms so good a culture medium for many germs, should be infected at every stage of transportation and even in the house of the consumer; while all the air that is breathed is full of the same germ bearing dust.

Such an hypothesis would, moreover, explain why summer diarrhœa is so much less frequent in wet seasons than in dry, especially in seasons characterized by frequent heavy showers, since the fall of rain serves to flush the streets; it would give an additional reason for the prevalence of the disease among young, artificially fed children, whose food is so liable to contamination from this ever-prevalent and penetrating dust of cities; why the disease is more common in narrow and ill-ventilated streets, courts and passages and less so in streets that are steeply graded and swept by steady winds that clear out the dust rather than merely raise and redeposit it. Especially is this theory rendered tenable by the noteworthy decrease in the disease since the streets have been systematically flushed. An equally marked decrease has been observed in New York City since the block pavement of so many streets has been replaced by asphalt and the streets have been swept and flushed regularly.

The bacteriology of summer diarrhœa is still in too unsettled a state to give us much assistance. Extended bacteriological investigations of horse dung are also wanting but it has been shown that one gramme of moist horse dung contains as many as ten million bacteria, while thus far thirty-one different varieties have been isolated, most of which are

harmless but some of which are either suspicious or known to be pathogenic. Several varieties are the same as those which have been identified in cases of summer diarrhœa.

With regard to Ballard's observation that the summer rise of diarrhœa mortality does not occur till the four-foot earth thermometer has attained a height of about 56° F. and declines with the fall of temperature at that depth, it has been difficult to see what influence deep temperature could have upon the disease. It may be due, however, to the maintenance of a degree of surface warmth favorable to the growth of surface bacteria, which might be inhibited or destroyed by low and variable night temperatures.

With regard to the practical application of these theories, though they are not proved and may be even incorrect to a greater or less degree, we may assume that they are near enough to the truth to afford a good working basis for the institution of prophylactic measures. Certain conditions favorable to the disease cannot at once be eliminated from sections already built up, but building such as gives rise to these conditions may be, and to a large extent is, prohibited. Thus narrow streets that permit no steady draught of wind and exclude the sunlight are no longer laid out, while in time many of those that exist may be widened and straightened and even in places torn out to make room for small parks. In New York the building of rear houses has given rise to a large number of dark, narrow courts and, though these rear houses are being gradually condemned, the new houses occupy nearly as much space as the old front and rear houses together and really result in no great gain of air space. The elimination of rear houses can do little good in this respect or in any other unless a larger space in the interior of the block is required to be kept free. One of the improvements that can be made immediately and with no great upsetting of previous conditions is that of the street surfaces; in New York there has been marked progress during recent years in asphalting the streets of the poorer neighborhoods, where it is of more importance, as well as those of the better class. But still there remains to the sanitary authorities, however slow may be the changes in the topography of the town or the improvement of its road surfaces, the duty to keep such roads as exist as clean as possible. In New York the condition of even the block pavement streets has greatly improved in recent years, while the new asphalted streets are swept and flushed with considerable care. Even now the work is not as well done as it might be. The streets should be sprinkled and swept while still wet or their surfaces washed over with the hose; now the dust is swept dry into the gutter which is then

flushed by a stream from the hydrant, the stream practically reaching no further than the gutter. The same considerations of paving and cleansing would apply to courts and alleys. By these two measures merely, proper paving of streets and courts and systematic and intelligent cleansing thereof, we may largely overcome the evil influence of conditions that are either beyond control or only slowly to be remedied, such as flat gradients, porous and polluted soils, lack of wind and rain, high temperatures and narrow, dark, ill-ventilated streets. Add to these measures proper regulations regarding the source and transportation of the milk supply—matters already under considerable control—and, last and most difficult of all, education of the people in regard to the care of the milk after it is delivered into their hands and in regard to the communicability of summer diarrhœa, and we shall soon find that this present scourge is not only a preventable but to a great degree a prevented disease. A. D. C.

OBITUARY.

Alexander J. C. Skene.

It was with a sense of profound sorrow and loss that the profession received the news of Dr. Skene's death on July 4th. It is announced that he succumbed to disease of the heart, from which he had for some years been a sufferer.

It is in a special manner that Dr. Skene's death is truly appreciated as a great loss by this Journal, for he has been one of its most prominent collaborators and a good friend to it from its very inception to the time of his death.

Dr. Skene will always stand before the profession as a type of the steady, untiring, incessant worker, a conscientious and successful gynæcologist. With these qualities, added to great shrewdness and intelligence, it could not be otherwise than that his contribution to the general fund of gynæcological science was very great and the profession for many years has not failed to appreciate this fact and to accord him the honor which was his due.

Notwithstanding all this and the fact that few men possess a more consistently courteous manner and address than did Dr. Skene, and that he was constantly before the medical public in his writings and in soci-

ety meetings, we doubt if any prominent surgeon were less intimately known by his colleagues. For Dr. Skene's most marked personal characteristic was great self-containment and extreme reserve—a wall through which few ever penetrated. Apart from his work on medical gynæcology and on diseases of the urinary tract in women—both very important and useful—the most valuable contribution of Dr. Skene to science, not only of recent years but of any time, was his presentation of his electro-hæmostatic forceps and his method of treating the stump in abdominal excision. Too great praise cannot be given to this method nor to Dr. Skene for its conception. Although in principle it was not original with him and although he himself, with characteristic modesty and in personal love and gratitude to his old friend, Dr. Keith, gave all the credit for it to the latter, yet the novel application and facility of accomplishment which Dr. Skene brought to the principle of stump desiccation constitute a quality of originality so great that its author deserves more credit than does Dr. Keith for the inception of the original principle.

For, the use of the actual cautery for hæmostasis and excision of the stump, as invented and practiced by Dr. Keith, was so difficult and cumbersome a method that, while admired in the hands of the author, it never was adopted by the profession. But Dr. Skene's method of electro-hæmostasis is so simple and easy of accomplishment, so effective, so certain, so superior to the suture or clamp, both subjectively and objectively in its relation to the patient, that he well deserves the appreciative gratitude of his professional brethren, had he no other claim upon us than the fact of this contribution alone.

In the March number, 1892, of this JOURNAL appeared an extensive treatise upon Dr. Skene's life and works, the facts for which, so far as the world did not possess them, were kindly furnished us, at our urgent solicitation, by Dr. Skene himself. We refer our readers to page 235 of the above number of the JOURNAL where, under the caption, *"Eminent Living Gynæcologists and Obstetricians of America,"* they will find the interesting history to which we have referred.

We reproduce as a *Frontispiece* a strikingly good portrait of Dr. Skene from an excellent photograph in our possession.

CORRESPONDENCE.

Imperfect Development of Spinal Column.

JAMAICA, QUEENS BOROUGH,
NEW YORK CITY, July 12, 1900.

To the Editor of the American Gynæcological and Obstetrical Journal:

SIR: I have treated an odd case recently and thinking it might interest your readers I send you the following description: Mrs. C., aged 24, primipara, suffering from *petit mal* since childhood, has had three or four attacks during pregnancy. June 10th, was delivered of a living female child, face presentation. The child had an imperfectly developed spinal column. Beginning about the eighth dorsal and extending to the first sacral vertebræ there was a separation of the vertebræ over two inches in width at the widest part. The bones were divided anteroposteriorly directly through the middle of each bone, the lateral halves being perfect in every way. Arching from the third, fourth and fifth lumbar vertebræ and uniting the two halves of bone was a thin sheet of cartilage about two inches square. These last-named vertebræ, as well as the others involved, were perfectly developed halves separated about two inches.

Above, the spinal cord could be seen leaving the canal at the seventh dorsal and it could be clearly traced about two and a half inches, where it dipped under the deep muscles of the back and entered the line of the canal about the upper border of the thin sheet of cartilage at the third lumbar.

The area of exposed surface was about six inches long and four inches wide. The skin was absent over the whole area and the muscles were imperfectly developed. Bordering the exposed surface, the skin was congested and sharply and evenly defined. Just inside the edge at the lower part of the raw surface was a crescentic sausage-shaped tumor containing fluid and covered with a fine membrane. The appearance of this tumor would indicate that just before birth the whole exposed area was filled with a large tumor containing fluid. This was punctured during labor and some of the fluid escaped, leaving the sausage-shaped tumor bordering the lower part of the open surface. The pressure of this tumor was probably the cause of the skin not growing, as after birth the process of extension of skin began and ad-

vanced with great rapidity until death, which took place about ten days after birth.

Paralysis in both lower extremities was complete although there was no trouble with the bladder or bowels. The child took nourishment well but the raw surface became infected and on the ninth day convulsions developed and continued until death.

Post-mortem.—The organs were normal and normally situated in the body. The only change was in the spinal column as described.

T. J. FLYNN, M.D.,
Coroner's Physician.

TRANSACTIONS OF THE CHICAGO GYNÆCOLOGICAL SOCIETY.

Stated Meeting, May 18, 1900.

The *President,* T. J. WATKINS, M.D., in the Chair.

Demonstration of Casts used in Obstetrical and Gynæcological Teaching.

BY J. CLARENCE WEBSTER, M.D.

(See page 110.)

Traumatism of the Bladder and Urethra During Labor, and their Sequelæ. (Inaugural Thesis.)

BY GUSTAV KOLISCHER, M.D.

(See page 115.)

DISCUSSION.

Dr. L. FRANKENTHAL: I have been very much interested in the paper, and wish to thank the essayist for its presentation. I must confess my ignorance of the fact that the bladder can be subjected to so many conditions as Dr. Kolischer has described, especially the case he mentioned in which there was no meatus left. Those are all novel conditions to me and I feel that we ought to use the cystoscope more than we do.

Dr. CHARLES S. BACON: This collection and classification of the less commonly recognized urethral and bladder troubles is very interesting. If I were to express any criticism of the paper, it would be the lack of a rather more extended and detailed description of the methods of diagnosis. Of course, a paper cannot contain everything, and that is probably the reason of this deficiency. The different conditions that were described and the methods of diagnosing them, are certainly interesting and valuable.

In regard to the etiology of the displacements of the bladder, the question naturally arises whether the extrication of the after-coming head may not also be a rather important factor. I would suppose that the rapid extraction would lead to the same trouble as in the case of the presenting head. As Dr. Kolischer has given this subject so much time and study, I would like to ask him whether he has any statistics to show how many cases of displacement are due to the use of the high forceps, and how many occurred during extraction. I would further ask him to make more plain the reason why the Breus forceps is preferable to the Tarnier or the Murray. It is the improper direction of the applied traction that causes the danger to the bladder and urethra. I doubt if it can be successfully claimed that the Breus is a more perfect axis-traction forceps than the other mentioned models.

Dr. FRANK B. EARLE: I merely wish to make an inquiry with reference to the passing of the catheter, as I do not know whether I understood Dr. Kolischer correctly. Did he mean to say that the catheter should be passed along the guiding finger, or whether the labia should be separated and the catheter introduced by sight?

Dr. EMIL RIES: The doctor mentioned that in certain cases parts of the bladder become denuded of epithelium, and that this epithelium is found in the urine, making the urine appear turbid. I would like to ask whether in these conditions he got his material by removing parts of the bladder or merely by a microscopical examination of the urine.

Dr. KOLISCHER (closing the discussion): I desire to thank the gentlemen for their kind reception of my paper. I admit that Dr. Bacon's remarks were justified, that he missed some diagnostic points in my paper, but I hope that he will have an opportunity to hear that phase more fully entered into at a subsequent time. In regard to bladder injuries following extraction of the after-coming head, I saw only one case in which the bladder was torn out. It was where the forceps was applied to the following head, when we cannot rotate the head as well as when we use the hands. The bladder was pressed against the symphysis and torn out of place.

The superiority of the Breus forceps over the Tarnier can, I think, be answered in this way. The Breus forceps allows the head greater mobility; the head is pulled down, but it can rotate very easily, and it is not forced as when you employ the Tarnier traction forceps. If the axis of the forceps blade does not correspond with the axis of the pelvis, we always compress the head very badly or injure the maternal parts. That is the reason most of the German physicians have aban-

doned the Tarnier and are using the Breus forceps. It is used by preference by most of the obstetricians in this city.

Dr. Earle misunderstood me; I did not recommend that the finger should be used in all cases—only where the urethra is bent. If we do not introduce the finger and control the vesical neck of the bladder, we do harm. I am very well aware of the danger of manipulating inside the genitals post-partum. I would rather put on a rubber glove or a finger cot when introducing my finger into the vagina, than to injure the already swollen urethra.

The microscopical examinations of all the specimens of bladder catarrh were conducted in Dr. Weichselbaum's laboratory in Vienna, and as the results did not belong to me I could not publish them. I may say, however, that Weichselbaum confirmed my statements by microscopical examinations of the urine.

Official Transactions.

C. S. BACON, *Editor of the Society.*

TRANSACTIONS OF THE PHILADELPHIA OBSTETRICAL SOCIETY.

Stated Meeting, June 7, 1900.

The *Vice-President,* J. M. FISHER, M.D., in the Chair.

Spontaneous Rupture of the Uterus.

BY WALTER V. WOODS, M.D.

(See page 113.)

DISCUSSION.

Dr. L. J. HAMMOND: I would like to ask Dr. Woods whether, after the return of the gut, the uterus contracted. If it did not do so, I know of no other explanation for the arrest of the hæmorrhage. Dr. Woods said that the rent was very large, and that he could put several fingers in before the reduction of the hernia; the history of the case from the delivery to the time Dr. Woods saw her shows that she must have been suffering with puerperal sepsis, the remarkable point in connection with the case is that if this rupture had existed from the time of delivery that no strangulation or fatal peritonitis had developed.

Dr. NICHOLSON: I should like to ask whether there was any difficulty in determining the character of the mass—whether the mesentery could be felt, making it easy to determine that it was a rupture.

Dr. JOHN C. DA COSTA: I think that the Society is very much indebted to Dr. Woods for his paper, and I am only sorry that more members were not present to head it. It teaches us a very important lesson: the ability of the uterus to restore itself, even after such a severe accident as that to which it was subjected in this case, and after so long an interval as that which elapsed between the rupture and the occurrence of the symptoms.

I believe that I can tell why the hæmorrhagé stopped: Dr. Woods used hot water, and this stimulated the uterus to contraction. Years ago, when Dr. Albert Smith was chief at the Nurses' Home, he enforced the use of hot water after hæmorrhage to stop the bleeding. At that time it was not known that the use of hot water was also a good way to produce asepsis and to wash away deleterious material. The hot water contracted the uterus, thus closing the tear and stopping the hæmorrhage.

The remarkable part of this case to me is how these intestines, which were there some days (from the time of the rupture of the uterus), escaped gangrene; or, if they were injured, how they recovered their tone after their restoration to the abdomen. Dr. Fisher will remember a case that occurred about a year ago, where the gut, twelve or fourteen inches from its insertion into the colon, was so gangrenous that we did not think it worth while to make a lateral anastomosis; yet the woman first had a fecal fistula, and then in three weeks commenced to defecate and made a perfect recovery.

Dr. L. J. HAMMOND: It is evident that I did not make my point clearly understood. I assumed that very hot water had been used previously, as is the usual practice in septic cases, and that it had not served to cause contraction, as evidenced by the non-strangulation of the gut. It was, therefore, a miracle that it did contract and cause strangulation.

Of course I know that the hot water caused the contraction; it is only remarkable that it did not do it before, as it was probably treated with hot water previously; it tends to make one skeptical as to the value of antiseptics when he thinks of an amount of gut as in this case being returned to the peritonæal cavity after being for so long a time bathed in the fœtid contents of a septic uterus, to say nothing of the large quantity of this material that must have been driven into the cavity at the time of irrigations.

Dr. NICHOLSON: There is one question that I should like to ask. Were forceps used in the delivery after the rupture had taken place?

Dr. WOODS: I do not know whether I have noted all the questions or not. The first one is, "Did the uterus contract?" and another is, "Why did the blood cease to flow?" I do not think that these two questions were asked by the same person, but I will take them up together.

But first, to answer Dr. Da Costa's questions: The intestine was not strangulated, for I passed two fingers through the rent in the uterus, alongside the gut, and could have passed three fingers without using any force. I passed them without using counter-pressure, but I afterwards used counter-pressure and felt them through the abdominal wall.

The point of rupture seemed to be right across the fundus of the uterus, from horn to horn. The uterus did not seem to have involuted any since the time of labor, although of course I did not see the case until the night I was called in. The next morning I made a careful examination and found it as I have described.

Dr. FISHER: That is why it is remarkable that there was no hæmorrhage.

There had been hæmorrhage ever since the time of labor; quite a considerable amount of blood was lost, but nothing like that which followed the return of the gut. The latter, as I said before, was not strangulated. After I had pulled it down with my two fingers, thinking that it was a piece of membrane, I could see it with my eyes, and I found that it was in normal condition and there was no evidence of strangulation. I then returned it to the abdominal cavity, and the blood came. I think—but this is only my theory—that it did so because in returning the gut I broke up some adhesions which existed between it and the rent.

When I introduced the hot water the uterus did not respond as much as I should have expected, for after the use of the water I could still run my fingers through the rent. The action of the hot water was, I think, only local, that is, on the open blood vessels.

Although the hæmorrhage was checked in such a short time, she continued to bleed slightly for a week after her admission to the hospital.

I am satisfied that quite a good deal of water went into the abdominal cavity; I had to push things. It was necessary to go ahead, even at the risk of poisoning her; for she might as well die from the one cause as from the other.

The intestine was not gangrenous. I did not see the mesentery, for I did not pull it far enough down; but I knew that it was the gut.

The bleeding did not start until I pushed it back. I think that there were, as I have before intimated, adhesions between the intestine and the rent, and that in pushing the intestine back I tore these adhesions loose, which caused the bleeding to commence.

No forceps were used. It was a purely spontaneous delivery. The nurse assured me of this fact, as did also the mother of the patient, both having been present during the whole time. It was a perfectly natural presentation. Everything went along smoothly, except that it was a little protracted; but twenty-four hours is not unusually long for a primipara.

I think that these are all the questions asked.

I may say that when Dr. Boyd saw the case he said, "Might not this have been some of the membrane?" I said, "No, it was not; because I knew from sight and feeling that it was not; besides, if I had pushed rotten membrane into the abdominal cavity, she would have had general peritonitis by this time."

I intended to find out before this meeting whether she has been confined again; but I did not do so. It is just about time for her delivery now.

Cyst of the Abdominal Wall: Report of a Case.

By L. J. Hammond, M.D.

(See page 112.)

Report of a Case of Acquired Hæmatocolpos.

Dr. John C. Da Costa: I wish to speak of a case of acquired hæmatocolpos that came into my office. It was a peculiar case. I have operated upon cases of hæmatocolpos and hæmatometra, but none like this. The patient was a woman of twenty-eight years who had first menstruated at the age of seventeen. For ten years she had menstruated every month without pain, but for the past three months she has had the symptoms of menstruation without any flow.

On examination I found a perfectly-formed vulva and a perfectly-formed hymen; but the latter was evidently a pin-hole hymen, and from some cause—perhaps inflammation—a membrane had formed immediately over this small orifice, stopping the evidences of menstruation from appearing. I examined through the bowel, and with the finger well up in the bowel. I could outline the uterus, which was somewhat enlarged, and by pressure on the membrane could determine fluctuation, showing that the vagina was filled with fluid. I never before met a case like that. Here was a woman with a perfectly-formed vulva, and a perfectly-formed hymen, which from some cause had been closed by a membrane. The membrane seemed to be about as thick as three or four sheets of writing paper, if not thicker. I have not yet operated on her, but I expect her to come back to-morrow or the next day.

Discussion.

Dr. Hammond: I hope that Dr. Da Costa will tell us what procedure he intends to adopt.

Dr. Da Costa: I intend to manage this case just as I have others. I always, before operating, make an examination of the heart, the lungs, and the kidneys—particularly the kidneys. If their condition is satisfactory I then propose to give ether, take a good-sized trocar and make a hole, and afterward wash the cavity out thoroughly with either normal salt solution, boric acid, or bichloride of mercury. I will then take

the scissors and cut the hymen out, and, contrary to the general rule, I do not stitch the edges together. After that is done, as I believe that there is a perfect vagina above, I shall pack with gauze for two or three days, after which I believe I shall be able to send her home, well.

The old treatment in such cases was: If you take a bistoury, make a large hole, and let the retained fluid escape; then you go home and write the death-certificate, dating it three days ahead. The instruction of all teachers in that day was to take the smallest needle and let the blood out gradually. This was a wise doctrine, under the circumstances then existing. It prevented the access of air, thus avoiding the decomposition of the blood. I have operated upon cases in which the blood had been retained for months. That colored woman, Dr. Fisher will remember, is an instance of this. She had presented evidences of menstruation every month. The hole I made in that case was, however, big enough to put my two fingers through. The old teaching was all right before the days of antisepsis; we know that we can keep blood or anything else from decay so long as no air is admitted. But if air gets in there will be decomposition, particularly when there is also heat and moisture, which are the great generators of fermentation.

Dr. NICHOLSON: Might I ask Dr. Da Costa why he packs the cavity after cleaning it out?

Dr. DA COSTA: I do it partly because I have got into the habit of packing the vagina after operation, and partly to prevent the adherence of the cut edges. Although the vagina is distended, after the blood is withdrawn it will assume its normal form; it will be a flat tube, instead of a cylinder, as it is at present, and if the cut edges of the hymen are left in contact, like other raw edges they may unite.

Dr. FISHER: To answer Dr. Hammond's question I wish to say that at the last meeting I reported a case of hæmatrometra and hæmatocolpos. There was a very dense retrohymeneal membrane. I made a vertical incision and thought that I had secured a good, roomy entrance; but on examining the woman after the parts had cicatrized, I found the opening contracted to such an extent as to make it barely possible to introduce three fingers. Subsequently I made transverse sections of the lateral flaps. This gave the woman a perfect entrance to the vagina. I do not think that the method advocated by Dr. Da Costa would have answered in that case, because I believe that a cicatricial atresia would have resulted.

Official Transactions.

FRANK W. TALLEY, *Secretary.*

ABSTRACTS.

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PÆDIATRICS.

UNITED STATES.

A Fatal Case of Carbolic Acid Poisoning in an Infant, Due to Absorption by the Skin.

R. ABRAHAMS (*Pediatrics,* March 15, 1900) reports a case of an infant seven days old who, while being dressed by the (untrained) nurse, went into violent convulsions. The family physician was called and gave bromides and a soap and water enema. Two hours later the writer found the child still in convulsions. There were dyspnœa, cyanosis, rapid and feeble pulse, pupils extremely contracted, reflexes abolished, body covered with a cold sweat but a rectal temperature of 105°. The urine was yellow but turned dark on standing. In the right inguinal region were two grayish-white eschars, so typical of those produced by carbolic acid that inquiry was made; it was found that the nurse in preparing a douche had accidentally touched the pure carbolic acid with her thumb and index finger, and almost immediately touched the child's right groin. Five minutes later convulsions began, and continued until two hours before death, which took place ten hours after the first seizure. Cyanosis and spasm of the face continued until death. One of the eschars was as large as a silver quarter of a dollar, the other as large as a dime. The child had been normal and healthy before this accident.

Grave Diseases in Young Children often due to Latent and Unsuspected Inflammation of the Middle Ear.

CHARLES H. BURNETT (*Penn. Med. Jour.,* May, 1900) says that the presence of purulent otitis media, with neither objective nor subjective symptoms, often lies behind many serious illnesses of young children.

The writer reported a case in this journal, March 3, 1900, of a boy of ten, who was supposed to have typhoid fever. The membrana tympani was found to be protuberant, was incised and the fever and delirium ceased at once. It has long been known that autopsies of infants rarely reveal normal ears, unsuspected suppuration being found in a large proportion of cases. But that this latent ear trouble has caused the fatal disease in many cases has only recently been suspected. Poufick, of Breslau, found that in his own children there existed a causal relation between suppuration of the middle ear and severe gastro-enteritis. The former being treated and cured, the children rapidly recovered from the latter without treatment. He then began autopsies on infants dying under three years of age. In a series of 100 consecutive cases dying of various diseases, only nine had any apparent ear trouble and in only six of these was the otitis media considered the cause of death; yet there were seventy-seven cases of ambilateral diseased tympana, and fourteen unilateral. Thirty-five per cent. of these children died of acute or chronic gastro-enteritis, while in eleven cases of uncomplicated pneumonia, as revealed by the autopsy, otitis media was absent in only one. In 133 autopsies on nursing infants Simmonds found the middle ear free from exudations in only five cases. Pomeroy holds that there is otitis media in *all* grave diseases of young children, and insists that the examination of the ear should be a part of the routine examination of every sick child. In this way, a slight bulging of the membrane may be detected. He further shows, by his figures, that where the membrana tympani was incised, symptoms attributed to brain, bowel or lung diseases suddenly vanished.

The starting point of the ear disease is usually the nasopharynx, infectious matter easily passing into the middle ear through the short, wide Eustachian tube of the infant. The middle and internal ears are just as large in the new-born child as in an adult, and the incomplete ossification of the surrounding bones brings the middle ear in close proximity to the brain and the lymphatics of this region. That serious inflammation may exist in the middle ear without causing pain is doubtless due to the escape of some of the pus into the nasopharynx, preventing extreme tympanic pressure. This also explains the comparative infrequency of spontaneous perforation of the membrana in little children. Inspection of the membrana tympani and recognition of abnormal conditions is by no means an easy matter, but every physician should endeavor to familiarize himself with the appearance of infants' ears by constant practice.

The Surgery of Childhood.

H. E. WARNER (*Mass. Med. Jour.*, May, 1900) says that the surgery of childhood differs in many respects, aside from congenital defects, from that of adult life. In consequence of ignorance of the anatomy of infants and children, which is not taught sufficiently, many grievous failures are made. Tact and quick perception are essential in dealing with children. It is often impossible to get an intelligent history, and careful observation must take its place. The natural condition of a child is that of hopefulness, and as soon as the first fright, shock and pain are over, the natural resiliency of mind and body asserts itself with rapidity. There are, moreover, only inherited taints of constitution to deal with, the viscera ordinarily being in a healthy condition, so that the results of misuse and abuse of the organs that must often be combated in adult surgery, need not be feared in children. In very young infants of feeble vitality the use of anæsthetic may be contraindicated, but after the first month there is no reason why pain should be needlessly inflicted upon an infant. In fractures, unless the diagnosis is easy and positive, an anæsthetic should be given for careful examination. The primary effect of ether is readily obtained, and should be used in the opening of abscesses. Fear may depress a childs' system more than pain, hence the knowledge of the probability of an operative procedure should be kept from the child. A little cologne may be poured upon the towel, the child allowed to smell of it and then the ether can be quietly added. Considerable air is allowed at first, but when the child begins to cry quick action answers best. Serious accidents from anæsthetics are very rare in children. If the child is feeble, milk may be given up to three hours before the operation and wine or whisky in water may be given just before the ether. Vomiting afterward is common but not persistent, and is easily quieted by a small hypodermic of morphia, which gives quiet sleep. Hot-water bags, hypodermics of brandy and conveniences for transfusion should be in readiness where the operation is to be tedious or much hæmorrhage is anticipated. The use of animal ligatures will save the pain incident to removal. Since the days of asepsis and antisepsis dressings can be changed with less frequency and therefore less upsetting of the patient. As a rule, a well-trained nurse, kind and quiet, does better in surgical cases in children than the mother.

Congenital defects are often inexcusably neglected by even good practitioners, either on the ground of their supposed incurability or from a mistaken policy of delay.

One of the early troubles is imperforate anus or rectum. The operation for the former is simply a crucial incision, followed by stitching of the mucous membrane to the skin and subsequent dilatation with the finger or probe. If, with a normal anus, no meconium is passed in the first twenty-four hours, careful examination should be made. When the bowel containing fæces can be found within two inches of the anus it should be drawn down as far as possible and secured, a channel being mantained through the rectal region. When the length of the bowel will not permit it to reach the anus, the opening may be made nearer to the sacrum. If no trace of the rectum can be found two inches from the anus, left inguinal or left lumbar colotomy must be performed. If the sigmoid flexure be absent the right groin is to be selected. Later in childhood prolapse of the bowel often demands attention. Where this is excessive, and fails to yield to replacement, astringents, hot water and constitutional measures it may be cured by the production of linear eschars by nitric acid.

The genito-urinary organs should receive careful examination. A simple occluded urethra may be relieved by a sound or catheter. Epi- and hypo-spadias and extrophy of the bladder should be treated by plastic operations as soon as the period of dentition has passed. Adhesions of the vulva or nymphæ can usually be separated by the finger or a probe. Imperforate hymen should not be allowed to persist. If imperforate vagina be operated upon during early life fuller development will be secured. Adherent and contracted prepuce has been brought more fully to the notice of the profession, and the necessity for prompt attention to this matter need not be urged. Congenital hydrocele is usually relieved by an evaporating lotion of muriate of ammonia or alcohol, as a few weeks will often close the canal if hernia does not coexist. If the connection with the peritonæum fail to close, puncture and the application of a truss will usually complete the cure. Undescended testicle is better treated in the later years of childhood. Umbilical and inguinal hernia should receive prompt attention, as a cure may often be effected during the first year of life by the persistent use of a truss. Strangulated hernia and intussusception must be treated by laparotomy.

Meningocele, encephalocele and spina bifida if attached by a narrow pedicle, may be constricted by an elastic band, but such pedicle is seldom found. Injection of iodine following tapping is rarely successful, yet is worthy of trial in such hopeless cases. Cephalhæmatomata increase until the second or third day. Absorption generally takes place so that aspiration or incision is unwise, unless suppuration

is certainly present. Lotions are beneficial only as they act upon the mind of the mother.

Scarlatina Miliaris.

J. P. CROZER GRIFFITH (*Phila. Med. Jour.*, May 12, 1900) says that a review of the opinions held by different writers on the subject of the combination of an eruption of miliary vesicles with the scarlatinal rash shows a wide difference in their views. Atkinson is the only one who attributes it to sweating. The greater number hold that the vesicles develop only when the ordinary scarlatinal eruption is very intense, others consider it due to an unusual degree of serous infiltration of the skin. Still others associate it with an unusually severe type of the disease. Thomas regards its presence as depending solely on some peculiar disposition of the skin of the patient. Four cases observed by the writer show the fallacy, in certain instances at least, of some of these views. The first case was a mild type of scarlatina; on the third day following the scarlatinal rash a miliarial eruption appeared abundantly on the neck and head. A slight branny desquamation in this location followed two days later, while the typical scarlatinal peeling occurred two weeks later on the arms and legs, in an entirely different locality from the miliarial eruption. In the second case the child had very little fever and no sore throat; the trunk and extremities were covered with small vesicles crowded on a red, punctate base resembling the rash of scarlet fever. The case was mistakenly diagnosed as diffuse miliaria, but a typical scarlatinal peeling ten days after the miliarial desquamation showed that it was evidently a true case of scarlatina. In the third and fourth cases the scarlatinal eruption was very slight, and the type of the disease mild, but the miliarial eruption was marked. In the last case there was very little peeling of scarlatinal type, but a profuse branny desquamation. These mild cases contradict the prevailing opinions on this subject, and seem rather to support the view of Thomas. Henoch has made some interesting studies showing that there is often a family tendency to miliary scarlet fever.

Some Remarks Concerning the Use of Pane's Antipneumonic Serum in Children.

ANTONIO FANONI (*Pediatrics*, May 15, 1900) says that recent researches of Pane, communicated to the last medical congress in Italy, demonstrate that both Behring's antidiphtheritic serum and his own

antipneumonic serum act by rapidly immunizing the organism. The efficiency of Pane's serum in lobar pneumonia has been recognized by many impartial observers. The writer has used this serum with marked success in eighteen cases of pneumonia, four of which were in children under three years of age. The antipneumonic serum, like all others, has no effect when used in the pre-agonal stage of the disease, except to retard death for a time. In the cases of pneumonia treated by the use of this serum, one child, eighteen months old, received four injections of the serum, and another, two years old, needed only three injections. About 40 c.c. of No. 2 daily has proved sufficient in the writer's experience. The temperature is rapidly lowered, there is a marked improvement in the subjective comfort of the patient, and an amelioration of all the symptoms. Resolution is hastened. The objection has been raised that the pulmonary lesion does not rapidly disappear after the injection, but the pathological anatomy of fibrinous inflammation of the lung which has reached the stage of hepatization shows why this cannot be expected.

Rapid Osteoclasis for the Correction of Rachitic Deformities of the Legs.

WALLACE BLANCHARD (*The Chicago Med. Recorder,* June, 1900) by rapid osteoclasis refers to supracondyloid fracture of the femur for the correction of genu valgum or genu varum, and to fracture of the tibia for the correction of anterior or lateral deformities, occupying not over eight seconds for actual operative work with the osteoclast, then correction with the hands, five to eight seconds, application of the plaster of Paris and holding the parts in corrected position until the plaster sets, about five minutes. A whole ward full of bowlegs, knock-knees and bent tibiæ may be corrected by rapid osteoclasis in the time taken for one Macewen supracondyloid or one cuneiform osteotomy. The compression of the soft parts is of such a transitory nature that the tissues are not injured, and the circulation is immediately resumed. Practically all cases of bent tibiæ from early rickets are undersized and many are dwarfed. To such one or two inches increase in stature is second only in importance to the correction of the deformity, and while cuneiform osteotomy on a child 6 to 10 years old shortens the leg about one inch, osteoclasis on a similar leg lengthens it an inch.

Frequently, when the tibia is to be lengthened considerably, the tendo achillis must be tenotomized as a preliminary step to allow it to lengthen correspondingly. In bowlegs following early rickets, where

there are bent femora, large outer condyles and bent tibiæ, exaggerated over-corrections of the tibiæ will frequently result in perfectly straight legs. This over-correction also corrects the abduction of the legs and rotation. The fractures in rapid osteoclasis are always simple, without any complications, and it is the exception for patients to complain of the least pain. In fracturing the tibia for corrections of anterior deformity, the force of impact should be in the direction of least resistance, usually lateral, without regard to the direction of the bone deformity; the fracture must be complete and the correction of the deformity made by hand force alone. The straightening of the broken tibia opens up a triangular space in the shaft of the tibia with its apex forward toward the crest. The rapidity of the unions show that the gaps left in the tibia readily fill with callus. In lateral curves of the tibia the leg is placed in the osteoclast so that the pressure of the fracturing bar is exerted directly against the most prominent point of the bent bone, so that the bending or fracturing, while lateral, is in the direction opposite to the deformity curve. The force applied should only be sufficient to correct or slightly over-correct the deformity; in the majority of cases bending of the bone suffices, but sometimes a four-fifths fracture is required. In three-fourths of the cases of supracondyloid correction in quite young children and occasionally up to 10 years of age, bending of the femora is sufficient for the correction of even severe types of bowlegs or knock-knees. Three-quarters of an inch above the prominence at the anterior upper and outer margin of the condyle is the best place for the lower resistance bar of the Grattan osteoclast, leaving plenty of space above for the placing of the fracturing bar at the best point for the reduction of the deformity. When the bones harden after the rickets of early childhood they frequently become unnaturally dense and firm, so that they will break under the osteoclast with the snap of those of a man of forty.

The Grattan osteoclast has been objected to on the ground of its weight, and lighter instruments have been ordered from instrument-makers, but familiarity with the work of the Grattan osteoclast shows that the lighter instruments lack the steadiness, accuracy and strength of the original. The need of "plenty of time and due deliberation" in the use of the osteoclast has been urged, with the result that nearly every orthopædic surgeon agrees with De Forrest Willard that "the osteoclast contuses and lacerates the soft tissues to marked degree, and the traumatism inflicted is infinitely greater than the clean incision of osteotomy." It is the "time and deliberation" that work this mischief, for in *rapid* osteoclasis there are no such unfortunate results.

Bradford and Lovett, James E. Moore, J. Jackson Clark of England, voice the general opinion that osteoclasis is unsatisfactory; but all mention other instruments of lighter weight than the Grattan, and furnished with pads and straps which stretch and give, rendering them uncertain and variable in action. With the bare steel bars of the Grattan there can be no slipping or giving, and the fracturing bar can be sent with a steady, irresistible force to the accomplishment of a simple fracture. Fractures may be made as near to the knee- or ankle-joints as could possibly be deemed necessary for practical purposes with safety and exactness. Speedy unions are the invariable rule, and in from four to six weeks the plaster may be removed and the patient allowed to walk without braces or supports of any kind. At the Home for Destitute Crippled Children in Chicago, operations along these lines have been carried on for two years, often four or five cases in one day, with most satisfactory results and not a single mishap of any kind.

A series of experiments with fresh bones seem to to prove that fractures under the osteoclast follow certain lines. When a child's tibia bends under the Grattan osteoclast the side opposite the point of pressure curves outward and a transverse line of depression and impaction forms on the side next the pressure-bar. These conditions increase up to about six or ten degrees. This may be termed osteocampsis. As the pressure is increased, a snap is heard, and the bone is fractured opposite the pressure point four-fifths of the thickness of the shaft, with a transverse, sometimes irregular, cleavage but without splintering. The unfractured fifth lies next under the pressure-bar. Five to ten degrees more of bending produces a complete fracture, sometimes smooth, sometimes irregular but never splintered.

In view of the freedom from pain, from danger of infection, from long confinement and the use of supports, rapid osteoclasis deserves more consideration among the orthopædic surgeons of this country.

The Treatment of Pneumonias of Infancy and Childhood.

I. A. Abt (*Ibid.*) says that in private practice the mortality from pneumonia in children under 2 years of age varies from 10 to 30 per cent.; while in hospital practice, among poorly nourished children, it is from 50 to 65 per cent. The present treatment of the disease at the best leaves much to be desired. In cases of true croupous pneumonia and in some cases of bronchopneumonia the pneumococcus is present. In pneumonias following the acute exanthemata and pertussus the streptococcus is also found. The bacillus of Friedlander and the tubercle

bacillus are often associated with the pneumococcus. With this tendency to mixed infection but little can be hoped for from a specific antitoxin treatment.

The prophylaxis consists in the early treatment of every case of acute bronchitis and nasal catarrh. Such children should be kept in a warm, well ventilated room. Where there is fever and coryza, laryngeal irritation and cough, with dry bronchial râles, they should be put to bed, given two hot baths daily at a temperature of 95° to 100°. The nasal cavities must be cleansed with mild antiseptic solutions. Similar precautions should be observed with children suffering from measles, chicken-pox or whooping-cough.

In discussing the treatment the different forms of pneumonia will be considered together. The hygienic treatment is important. The temperature of the room should be kept at 70°, and there should be at least 1000 cubic feet of air space for each person occupying the room. There must be good ventilation and frequent airing of the room. To prevent atelectasis and hypostasis in older children as well as in infants the position of the patient in bed should be frequently changed. Infants may be held upright occasionally. Regular hours of feeding must be maintained. Milk, peptonized if necessary, is the best food. Water may be freely given between feedings. Small, frequently repeated doses of calomel, at the onset of the attack, are good treatment. The coal-tar antipyretic drugs are not recommended for the reduction of temperature. A piece of flannel which will envelop the child from the clavicles to the navel may be dipped in water at 65° and applied and covered with a dry flannel. This may be repeated every half hour. If this does not reduce the temperature, cold or tepid sponging may be tried, or the child may be placed in a tub of water at a temperature of from 95° to 100°, which may be gradually reduced by adding cold water. Friction over the body should be kept up while the child is immersed, and the bath should not last longer than five minutes. Where there is dyspnœa, cyanosis and weakness, immersion in a hot bath often gives marked relief in every way. These baths may be repeated every three hours. Aromatic spirits of ammonia is a rapidly diffusable stimulant and a mild expectorant. It may be given every hour or two. Excessive doses of alcohol should be avoided, and the brandy or whisky should always be diluted from six to eight times with water. From one-half to three ounces of whisky may be given in twenty-four hours to children under 4 years of age. Strychnia, digitalis, strophanthus and caffeine should not be given in a routine way, but held in reserve until the condition of the circulation demands

them. When the pulse is small, weak, and rapid, and cyanosis marked, nitroglycerine in doses of $^1/_{500}$ to $^1/_{100}$ of a grain, repeated every two hours, has proved of great value. Oxygen must be used for sudden attacks of cyanosis and dyspnœa. Emetics and nauseating expectorants do more harm than good by interfering with nutrition. The cough is rarely so severe as to require any form of opium, and the pain can be controlled by ice-bags, cold compresses or hot applications. Poultices, pneumonia jackets or plastering the chest with proprietary salves afford neither benefit nor comfort. Where the cough is persistent and the secretion scanty, inhalations of steam with the vaporization of creosote, turpentine or benzoin should be kept up. In protracted cases the supporting treatment must be persisted in. Creosote internally and by inhalation may be tried. Cod-liver oil, arsenic and iron should be given after the fever has subsided, and a change to a warm, dry climate is to be recommended if possible.

Pneumonia in a Baby Six Weeks Old.

ABRAHAM GOLTMAN (*Ibid.*, June 15, 1900) was called to see an infant six weeks old suffering from bronchopneumonia involving both lungs. Pulse 150, and very weak; temperature 105°; respirations 80. Calomel gr. $^1/_{10}$ hourly for six hours and drop doses of tincture of aconite hourly for six hours was ordered. The next day the child was worse. The aconite was stopped and drop doses of aromatic spirits of ammonia in a little brandy every two hours were ordered. On the following day strychnine gr. $^1/_{150}$ every six hours was given and continued for four days. As the child showed no improvement, hot and cold douches to the chest, by means of water dashed from a cup held at a height, were given every two hours, and the next day the child was treated by being plunged alternately into tubs of cold and warm water. The dyspnœa became less marked, respirations were reduced to 45 per minute and coughing was excited. Half teaspoonful doses of syrup of ipecac were given every 20 minutes until vomiting occurred. The next day the child was placed in a tub of hot water and rubbed vigorously for ten minutes, then dried and wrapped in a cold sheet for ten minutes. This was repeated, as well as the douchings, every morning and night for ten days. There was steady improvement, and two months later the child had gained flesh rapidly. After convalescence had commenced, inunctions of cod-liver oil were used.

Three Symptoms of Rickets.

W. N. BERKELEY (*Ibid.*) says that in spite of the familiarity of the medical profession with rachitis in children, some haziness seems to exist in regard to some of the symptoms, leading to errors in diagnosis. A most constant symptom is the costal "rosary." But this is sometimes overlooked because it is forgotten that the osseocartilaginous junction of the ribs is relatively farther by an inch or two from the median sternal line in children than in adults. Sometimes, instead of a genuine node, there is merely an angle formed by the bending of the softened rib. Tumefaction may occur on the interior and not on the exterior surface of the rib. The characteristic shape of the cranium may be wanting, yet there may be a wasting and softening of the bony plates of the skull and separation of the sutures. In the case of an improperly fed infant, eight months old, there was an exaggerated craniotabes of more than half of the parietal bones, yet the external contour of the head was normal. There is often an astonishing enlargement of the liver or spleen or both, giving rise to various diagnoses. When syphilis can be set aside, and leukemia and malaria excluded by blood-examination, it is safe to infer that the trouble is due to the chronic intestinal indigestion and secondary anæmia of rickets. A case of enlargement of the spleen, due to rickets, was considered sarcoma of the spleen, but the rapid improvement of the child on cod-liver oil and syrup of iodide of iron soon settled the diagnosis.

Juvenile Hysteria and Neurasthenia.

CHARLES L. DE MERRITT (*N. Y. Med. Jour.*, June 16, 1900) says that while specialists have long recognized the existence of these neuroses among children, the general practitioner, when consulted about some irritable, high-strung child, has been apt to dismiss the case with some general good advice about diet, rest, etc., and the remark that "the child will outgrow it," which assuredly it will not; and the neurotic child, for want of timely moral and hygienic restraint, reaches maturity with nervous force already exhausted. The majority of adult cases of hysteria and neurasthenia have their insidious beginning in childhood. Heredity is an important factor, both directly and indirectly. Neurotic parents not only transmit their nervousness to their children, but by their irritability and lack of firm, consistent government, destroy what little mental equilibrium the children possess. Pre-

liminary treatment of and advice to the parents is often the first necessity in the treatment of children. Overstudy is often cited as a cause, but German children study very hard yet rarely are nervous or break down. Their home life is quiet, and precocity is suppressed, not encouraged, as in American homes. Very often the worst possible thing would be to take the child out of school, away from the companionship of other children and its regular studies. Lack of exercise is a prolific cause of neurotic troubles among children, especially in cities like New York, where dwellers in flats have no yard whatever for a playground. Poor food, anæmia, etc., are often factors. The symptoms do not differ largely from those displayed by adults—insomnia, craving for sympathy, fits of crying and paroxysms of passion upon slight provocation, a tendency to deceive for no apparent reason, irritability, night terrors and masturbation. This latter is often treated as if it were a primary neurosis instead of a symptom of a deep-seated nervous derangement. The first step is to secure, if possible, even, calm discipline at home, the checking quietly of tendencies to "show off," the securing of sleep by bromides until the habit of insomnia is broken, and regular exercise in the open air. Bathing is a useful adjuvant, especially the warm bath at bed-time, followed if necessary by a small dose of hyoscyamus. Tonics and hæmic restoratives are usually indicated, especially in anæmic children, but drugs must play a secondary part. As in adults, change of air and surroundings will often be of great benefit.

The Walker-Gordon Method of Feeding.

W. N. De Witt (*Cincinnati Lancet-Clinic,* June 30, 1900), while he endorses the scientifically prepared milk furnished by this company, wishes to call attention to the expense attending it, and the practical impossibility of its being used in the homes of the poor and ignorant, precisely where it is most needed. In the homes of the well-to-do the mother is usually intelligent enough to prepare a scientifically prescribed food herself, but among the poor there is lack of intelligent appreciation of the necessity for such scrupulous care in the feeding of infants, and here is where a prepared food from a reliable source is needed. There must be some way of overcoming this serious objection. If it is impossible for the laboratory to furnish the food at a lower rate, then some provision should be made by the city or town that the children may be supplied with a hygienic food at a price that will place it within the reach of the laboring classes.

GREAT BRITAIN.

The Differential Diagnosis of Mongolism and Cretinism in Infancy.

G. A. SUTHERLAND (*Lancet*, January 6, 1900) says that under the term "cretinoid" many not clearly differentiated conditions have been included, especially Mongolism, a more common condition than cretinism, and so named from the facial appearances which at first sight suggest a Chinese origin. Both conditions present many points of similarity, but on comparing typical cases of each we note the following differences. Mongolism is present at birth, cretinism is seldom characteristic before the sixth month; Mongolian infants are smiling and grimacing, shy, but observant and imitative, and present active movements, while cretins are dull and impassive, with expressionless faces and absence of active movements; in Mongolism we do not find the swollen, dry, scaly skin, fatty deposits in the neck, and coarse, scanty hair of cretins; cretins present no characteristic skull changes, while Mongolians have skulls flattened antero-posteriorly, brachycephalic; in cretins the palpebral fissure *appears* small from swelling of the lids, and epicanthus is absent, while in Mongolians the palpebral fissure *is* small and oblique, the lids not swollen, and epicanthus marked; in both conditions the tongue may be large and protruding, but is not swollen except in cretinism; in cretinism the lips are thick, immobile and everted, in Mongolism mobile, pursed up, and everted on movement or crying; congenital heart diseases are rare in cretinism, common in Mongolism; the relative size of the fingers is normal in cretinism, the little finger short and curved and the thumb short in Mongolism; the thyroid is absent or atrophied in cretinism, normal in Mongolism; and, finally, thyroid treatment produces marked benefit in cretins, but is without effect upon Mongolian imbeciles. The difficulty of diagnosis, of course, is chiefly in the slightly marked cases; and in such the most important points are the active movements of the face and limbs and a certain "joyful" expression of the Mongolian imbecile, as compared with the lethargic state and expressionless, though somewhat "sad" face of the cretin. Of course, the final test is the therapeutic one.

Salol and Petroleum in the Treatment of Infantile Diarrhœa.

W. E. FOTHERGILL and JOHN PENNY (*Med. Chronicle*, April, 1900) endeavored, during the summer of 1899, in their work at the dispensary, to ascertain if the statistics as to infantile diarrhœa could be improved

by the use of salol or petroleum or both. For this purpose slips were provided to be filled out and filed with the history of each case. Where the food was suitable, as breast milk or milk and barley-water, no change was made in order to give the drugs a fair trial. More than half of the slips were not completed, as the patients failed to return. The writers had been at work in this district for several years, one at the dispensary, the other as house-to-house visitor, so that the children treated were personally known in many cases. In the cases that did not return, probably the majority were cured. Seventy-one cases had completed slips. All of the children were under two years of age. Eight were entirely breast-fed, all of whom recovered. Of the remainder, only three died. In eight cases there was no good result from these drugs, so that others were substituted. Sixty cases, therefore, recovered on this treatment. Salol alone was used in thirty-six cases. The drug was used in powder form, half a grain every three hours being the minimum dose, three grains every four hours the maximum; the usual dose for a child a year old was two grains every six hours. Improvement was generally rapid, and the stools became normal in from two to seven days, although some of the children had been ill for two weeks. The cough so often coincident with summer diarrhœa was not relieved by the salol. In several cases the vomiting was rather aggravated than relieved, the powder seeming to act as a mechanical irritant. The conclusion in regard to salol was that although a valuable antiseptic, it is better given in some demulcent and not more than twice daily.

Petroleum was used in thirty-four cases. The preparation was an emulsion containing 33 per cent. of petroleum and the doses varied from ʒss thrice daily to ʒi every four hours; the usual dose for a child a year old was ʒi of the emulsion (♏ 20 of petroleum) thrice daily. In two cases salol was substituted at the end of a week. One child died. In the remaining cases recovery was rapid and complete. There was no derangement of the stomach, vomiting ceased almost before the diarrhœa was checked, and the stools soon recovered their normal color and consistency. The emulsion seemed also to favor recovery from the accompanying bronchial catarrh. It is said that the whole quantity of petroleum ingested may be recovered from the fæces. Clinical observation shows, however, that petroleum has an influence on mucous membranes other than those of the alimentary canal. Its action in cases of bronchial and vesical catarrh can be explained only by supposing that after absoption from the intestines petroleum is excreted by various organs. These experiments seem to prove that infantile

diarrhœa can be treated successfully without the use of opium or astringents.

"Growing Pains" as a Symptom of Rheumatism.

E. M. BROCKBANK (*Brit. Med. Jour.*, April 28, 1900) says that the term "growing pains" is applied to pains occurring in rapidly-growing and usually anæmic young children. They usually are in the legs, sometimes in the arms and, apart from the discomfort they cause, are not considered of any importance by the family. But there is no doubt that these pains are often if not always of rheumatic origin and special inquiry should be made about them when searching into the cause of a diseased heart. As is well known, the younger the subject of rheumatism, the less are the joints affected and the more likely is endocarditis to attack the valves of the heart. During the past year five cases of mitral stenosis were examined who had no history of rheumatism, but when questioned, remembered distinctly severe attacks of so-called "growing pains" during childhood. The careful and frequent auscultation of the heart where there is a history of such pains would lead to the early recognition of endocarditis and, followed by appropriate treatment, would diminish the severity if it could not ward off altogether the development of the insidious inflammation which leads to serious heart trouble in later life.

Two Cases of Bromoform Poisoning.

C. E. STOKES (*Brit. Med. Jour.*, May 26, 1900) was treating two children for whooping-cough with half-minim doses of bromoform, suspended in mucilage of tragacanth, three times a day. He was hurriedly called and found the children unconscious, with breath smelling of bromoform, faces pale, eyes closed, pupils contracted and limbs flaccid. The respiration was feeble in the older child (aged four years), and stertorous in the younger (aged two); respiration soon ceased in the latter and artificial respiration was resorted to. A few minutes later the same measure was needed for the older child. In the meantime a hypodermic of half a drachm of brandy was given to each, then three injections of strychnia at intervals of fifteen minutes, to the elder $^1/_{200}$ of a grain and to the younger $^1/_{400}$ each time. The stomachs were washed out with hot water two or three times, then with strong coffee, some of the latter being allowed to remain behind.

After about an hour and a half of artificial respiration they breathed spontaneously but the older remained stupid and drowsy for some hours. The children had received their doses (the last in the bottle) four hours before the writer was called and the symptoms had developed gradually. The bromoform must have accumulated in the bottom of the bottle through the latter not having been properly shaken each time, but even on this hypothesis the children could hardly have received more than three or four minims each of pure bromoform in a teaspoonful dose.

Acute Intussusception; Laparotomy; Reduction and Recovery.

G. W. FARMER (*Ibid.*) says that the high mortality of intussusception treated by laparotomy justifies the report of a successful case. A boy, ten months old, had been perfectly well until the morning of the day previous to his admission to the hospital. He began to cry as if in pain, the face looked pinched and vomiting at frequent intervals set in. The bowels had been regular but did not act that day, so at night a laxative was given. The next morning a movement mixed with blood was passed. The child lay with his legs drawn up. The doctor that was called made a diagnosis of intussusception and sent the child to the hospital, where it was seen by the writer in the evening. The abdomen was distended, with resistance in the right inguinal and lumbar regions. The respirations were shallow, thirty per minute, and the pulse was rapid and hardly perceptible. The child's condition demanded instant relief and laparotomy was at once performed. The type of intussusception was that known as ileocolic, much more uncommon than the ileocæcal variety. The tumor was about two inches in length, extending from the ileocæcal junction upwards into the ascending colon. The mass was gently kneaded from above downward, when the intussusception gradually slipped downward and finally disappeared. The abdomen was sutured with sterilize d silk and dressed. The pulse improved at once; vomiting ceased; a fæcal movement free from blood occurred two hours after the operation and a rapid recovery followed. The sutures were removed on the seventh day. Success in this case was undoubtedly due to the short interval between the onset of the trouble and the time of operation.

AUSTRALASIA.

Primary Sarcoma of the Liver in a Child Fourteen Weeks Old.

HERBERT M. HEWLETT (*Intercol. Med. Jour. of Australasia,* December 20, 1899) reports the case of a breast-fed male child, three and one-half months old, brought to the hospital on account of a two days' attack of diarrhœa and vomiting. There was no further previous history. The child was well-nourished, very anæmic, but without jaundice. The abdomen was prominent, presenting a swelling that rose abruptly from the lower border of the ribs and extended to below the umbilicus; the swelling did not appear to move with respiration, felt very resistant, and had a distinct lower margin presenting two notches, above one of which was a rounded, cherry-sized, semi-fluctuant mass; with this exception the surface felt smooth, but was very tender. Neither spleen nor abdominal fluid could be detected. Percussion was good down to the tenth rib in the right posterior axillary line. Fine rhonchi and crepitations were heard over both bases posteriorly, also in front in the second left intercostal space; the respirations were 40. The blood showed a marked leucocytosis. Death followed in ten days, the swelling and anæmia increasing.

At the post-mortem, about six ounces of clear fluid escaped on opening the abdomen. The shape of the liver was roughly preserved; its weight was 17½ ounces, the average weight at four months being 7 ounces. The surface was dark red, with hæmorrhagic spots and small nodules showing through the slightly thickened capsule; on the anterior surface the nodules were mostly of split-pea size; on the under-surface, among many small nodules, there were two in the region of the fissure of the size of half an orange. Many small and some large nodules also appeared on section. The gall-bladder seemed normal. The lungs were enlarged and much distorted, and were studded with large projecting nodules, the largest being 1½ inches in diameter; in fact, the greater part of the air space was invaded by tumor growth. The brain was not examined, but all the other organs appeared healthy. Microscopically the liver showed a well-marked fine cirrhosis; the nodules were without limiting capsule and consisted of large round cells with well-marked nuclei and nucleoli, with a few spindle and small round cells, imbedded in a delicate fibrillar matrix separating the individual cells; the nodules were very vascular, and the walls of the vessels in parts seemed to be formed by the tumor cells themselves, in other parts by a single layer of flattened spindle cells. The microscopical appearance of the growths in the lungs was similar to that of those in the liver.

OBSTETRICS.

UNITED STATES.

The Relation of Pregnancy to Nervous Diseases.

JAMES WRIGHT PUTNAM (*Amer. Med. Quarterly*, April, 1900) wishes to discuss this subject in its two aspects, namely, the effect of pregnancy upon already existing nervous disease, and pregnancy as a cause of nervous disease. Leaving out the question of heredity it is a common belief among the laity that epilepsy is cured by pregnancy, and physicians are often consulted as to the value of marriage as a therapeutic measure for epileptic girls. As a rule, patients are made neither better nor worse. One patient of the writer's, an epileptic for ten years before marriage, never had an attack during her four pregnancies, nor has she had one since her last pregnancy in 1892. On the other hand Terilon reported the case of an epileptic whose attacks were tenfold in number and much more severe during her two pregnancies. Pregnancy as a cause of epilepsy has been reported in several instances. Gower reports seven cases in which the first attack occurred during pregnancy, and five in which it closely followed parturition. Chorea of pregnancy was formerly considered a grave disease, but the experience of the writer with four cases of chorea gravidarum leads to the belief that its fatality has been exaggerated. All of these cases went to term and three of the children were alive. One of these cases had such severe spasms as to rupture small blood-vessels, causing hæmatomata. Abortion solely on the ground of existing chorea should never be thought of. The disease usually appears in the early months of pregnancy and differs in no wise from the chorea of childhood and should be treated in the ordinary manner. Diabetes has been observed to occur in several successive pregnancies, while the patient was absolutely free from the disease during the intervals. It is always a grave complication, and there seems to be a greater tendency to diabetes mellitus in pregnant women. Tetany during pregnancy has been frequently observed in Egypt, not often in this country. It is more liable to occur in those who have had the disease before marriage, and comes on in the later months of pregnancy. It is apt to occur in successive pregnancies. Nursing mothers seem especially liable to this disorder. Nervous diarrhœa was noted in 35 out of 3674

pregnancies recorded in the Turin Maternity. It begins about the fifth month and may continue until delivery. In some few cases pregnancy seems to have had a beneficial influence upon exophthalmic goitre, usually, however, the symptoms become gradually worse. Hysteria has been cured by pregnancy in a few rare cases, but it is usually increased in severity. There is, however, no tendency in the hysterical to premature labor. Peripheral neuritis in pregnancy has of late had much attention. Fatal cases have been reported, but as a rule recovery began after delivery. Mills reports seven cases of traumatic peroneal neuritis in which there was recovery from the neuritis but persistence of the paralysis. Puerperal neuritis due to septic infection caused by forceps or exudation into the pelvis, is usually recovered from, as the sepsis is overcome. Puerperal neuritis not due to these causes usually begins in the legs, later the arms are invaded. In 14 cases out of 49 there was no recovery. It is more common in multiparæ.

Puerperal myelitis has resulted from septic infection. In every case of paralysis of pregnancy the urine should be examined, as albuminuria is often present. The insanity of pregnancy is, as a rule, melancholia, while that of the puerperium takes the form of mania. In cases of hereditary insanity pregnancy tends to increase the liability to the disease. Many of the cases are septic in origin. Primiparæ are much more liable to this trouble than multiparæ.

A Case of Abdominal Pregnancy.

CHARLES DEWEY CENTER (*Phila. Med. Jour.*, April 14, 1900) says that such cases are so rare that many eminent writers dispute their existence. The following case seems to have some weight in establishing the possibility of their occurrence. The patient, when admitted to the hospital in December, 1899, gave the following history. She was thirty-seven years old, had been pregnant eleven times, resulting in four miscarriages, six still-born children, and one living child. Menstruation was very regular and last occurred in January, 1899. In March there was a slight bloody discharge from the vagina, and again in June. At this latter time a piece of membranous looking material was discharged. Fœtal movements were felt at and after this time. In October she consulted a doctor, who said that she was pregnant, but not at full term. In November she had ineffective labor pains and consulted another doctor, who said the same thing. Fœtal movements now ceased. When admitted she was emaciated, sallow, had an ascitic abdomen, while just below the navel was a resilient mass about 3x1½

inches, resembling a ventral hernia. On the right side was a rounded mass with hard projections, the size of a pregnant uterus at term. This was somewhat movable and to vaginal and rectal examination felt doughy. The cervix was firm and closed. It was dilated and the uterus was found to be empty, normal to the feel and about four inches in depth. Laparotomy revealed some ascitic fluid in the abdomen. The resilient mass was a cyst filled with clear serous fluid; its posterior wall was the anterior wall of the large tumor. This was reddish-gray and when aspirated gave a greenish fluid with an amniotic odor. This tumor contained a well-developed macerated fœtus, with the placenta at the lower part of the cavity. The sac was adherent to the intestines, the right ureter, the right broad ligament, the fundus of the uterus and the left Fallopian tube. There was no opening between the uterus and the sac. The tubes and ovaries were normal and there was no mark of rupture. The right tube was free, and while the left was adherent for a short distance, there was no opening between the tube and sac, and the adhesions were external only. There was nothing to lead to a suspicion of a ruptured tubal or ovarian pregnancy. There was no history of pain or shock. The location of the placenta at the lowest part of Douglas' cul-de-sac is another point in favor of a true abdominal pregnancy. The patient made a good recovery.

Report of a Case and Operation under Difficulties.

J. B. JACKSON (*Med. and Surg. Bulletin,* May, 1900) was called to see a case at a distance with no knowledge of its nature, so went provided only with a pocket-case of instruments and a little iodoform gauze and absorbent cotton. The patient had been in labor the preceding day and attended by a doctor, when suddenly during a hard pain the child's head receded and passed out of reach. There was evidence of shock but the uterus contracted and there was no hemorrhage. When seen by the writer, nineteen hours after the accident, the temperature was 103°, pulse 140, and there were indications of general peritonitis. The fœtus could be felt on the left side of the abdomen, pressing against the diaphragm and causing great dyspnœa.

The surroundings were unsanitary in the extreme; not even clean water could be obtained, it was so muddy. The abdomen was rendered as aseptic as possible with bichloride solutions, and opened in the median line. The placenta was spread over the intestines, fœtal side upward. A 12½-pound fœtus was extracted. The laceration through which the fœtus had escaped was in the anterior wall of the vagina,

which was detached from the uterus. The latter had suffered no laceration and was firmly contracted. The laceration was repaired and the abdominal cavity cleansed as well as possible, but the patient died from peritonitis 36 hours later.

A Single Impression Made upon the Mind of a Non-Pregnant Woman.

P. B. McCUTCHEON (*Virginia Med. Semi-Monthly,* May 25, 1900) reports a case which he classes under "maternal impressions." A newly married woman and her husband visited a museum and were much impressed by an albino who was on exhibition. Both man and woman were brunettes, and the woman was not pregnant at the time, but became so a month later, and was delivered eight months later of a premature, still-born child, with black hair and eyes. "Nothing remarkable about this," says the writer, which is true. But eleven months later a perfect albino boy was born. The third child was normal, but the three following children were albinos, and two were anencephalous. Then followed another brunette baby and then four more albinos. Of the eleven only one child (born March 20, 1900) is living. The parents were first cousins. The writer asks, "Is it possible for an impression made upon the mind of the *father* to influence the fœtus? The mother says that her husband thinks and talks about her having albinos much more than she does."

In the mother's family there was a series of deformed children, whose peculiar deformities were traced by the parents to maternal impressions. The woman may possibly have inherited a condition of mind inclining her to receive and transmit impressions to her offspring.

Treatment of Rupture of the Parturient Uterus.

A. V. WENDEL (*Med. Record,* May 26, 1900) says that as rupture of the uterus occurs more frequently in the practice of midwives, the general practitioner sees most of these cases, being called in by the emergency, so that a brief discussion of the appropriate measures is of general interest.

The essential factor disposing to rupture is over-retraction of the upper segments of the uterus with consequent excessive and dangerous thinning of the lower segment and cervix. Some form of pelvic obstruction is the most frequent cause, yet cases occur in women who have previously borne children with normal labors. For such cases various explanations may be given—uterine atrophy, placenta prævia, metritis,

the giving way of old scars, atrophic spots in the uterine wall leading to circumscribed thinning or sacculation, etc.

If, during labor, in spite of strong uterine contractions the head fails to descend, and examination of the abdomen shows the retraction of the upper segment of the uterus as indicated by the ring of Bandl and tension of the round ligaments during the contractions, and especially if the ring of Bandl becomes oblique and the round ligaments remain tense between the pains, rupture will follow unless there is speedy delivery. Deep chloroform narcosis to stop the uterine contractions must be induced. Where the conditions above mentioned are slight in degree forceps may be used with great care in head presentations; and if the fœtus is living version may be performed in transverse presentations. In more severe cases either Cæsarean section or craniotomy must be performed. When rupture has occurred the object must be to deliver without increasing the injury, to arrest hæmorrhage and to prevent or limit peritonæal infection.

If the conjugate diameter is less than 8 cm., a completely intraperitoneal fœtus must be delivered by abdominal section; where the diameter is greater, the uterus should be removed by vaginal hysterectomy and the child delivered by the feet. If the fœtus is alive after the mother's death post-mortem section should be immediately performed.

Vaginal hysterectomy is the elective procedure in all cases, but should be supplemented by abdominal section when necessary. The objection to vaginal suture is that bleeding arteries in the parametrium are apt to be overlooked. To operate on a patient in collapse is only to hasten death, but the transfusion of several thousand cubic centimeters of decinormal salt solution into the veins will revive her and give time for operation and closure of the bleeding vessels. Commencing peritonitis should be regarded only as a demand for immediate operation. The danger of secondary hæmorrhage and infection, as well as the possibility of complications in subsequent pregnancies, forbids conservative surgery unless insisted upon by the patient and family.

The Pathology of Criminal Abortion.

MAXIMILIAN HERZOG (*Jour. Amer. Med. Assoc.*, May 26, 1900) says that the pathology of criminal abortion has to establish: (1) The causal nexus of premature expulsion of the ovum with the employment of internal medicinal or external medication or external mechanical means used in the criminal attempt. (2) The cause of the illness

or death of the mother during or after abortion. Modern histologic and bacteriologic methods make the last comparatively easy. On the other hand, only a small proportion of the cases where there is neither the death nor serious illness of the mother, are ever brought to notice, so that observations can be made on but a small proportion of the cases, and in these many details are lacking. The main difficulty, however, lies in the fact that so little is known about the intrinsic cause of causes which normally lead to the beginning of the act of parturition at full term.

The largest number of criminal abortions are brought about by internal, medicinal agencies. These generally act first by indirectly disturbing the nutrition of the embryo, by making the mother sick or even moribund, by producing hæmorrhages and by detaching the ovum from the uterus. The hæmorrhages caused by internal abortifacients occur between the fœtal membranes into the amniotic cavity or into the placenta; they lead to a loosening or separation of the ovum, which is usually expelled when the toxic effects of the abortifacient reaches the climax. A brief mention of the special action of certain drugs may be given. Phosphorus, much used for this purpose in Sweden, produces general systemic poisoning, and also produces hæmorrhages which detach the fœtal membranes. Oleum rutæ produces gastroenteritis, metritis and hæmorrhage. Tansy, in large doses, produces convulsions, cyanosis, spasmodic respiration, hæmorrhages from the lungs, uterus and vagina. Aloes produces inflammation of the pelvic organs subsequent to gastroenteritis, nephritis and hæmorrhages between the fœtal membranes. Oleum sabinæ produces tetanic contractions of the uterus, probably from its action on the lumbar centers, and also causes hæmorrhagic inflammation in the gastro-intestinal tract and kidneys. Ergot, which has been used for over a thousand years in China, causes tetanic uterine contractions, contraction of arteries in general, increase of blood pressure and general convulsions. All of these cause circulatory disturbances and changes in the blood pressure, leading to intervillous hæmorrhages and hæmorrhages into the spongiosa of the decidua serotina.

The use of external mechanical means, instrumental separation of the fœtal membranes, perforation of the amniotic cavity, etc., has nothing from a pathologic standpoint unless infection or trauma follow.

The dangers of traumatism and sepsis are so much greater following a criminal abortion than after a legitimate production of premature labor, because the former is usually performed by uneducated and unscrupulous individuals. The sepsis usually manifests itself as septic

pelvic or general peritonitis. The local reaction is characterized by a seropurulent or fibrinopurulent exudation found on the pelvic or abdominal peritoneum or on both. Lingering cases of sepsis after abortion often develop distinct metastatic abscess in joints, and metastatic septic endocarditis. The corpus luteum verum or a corpus luteum cyst furnishes fertile soil for the primary seat of the septic process in the ovary, leading to ovarian abscess, a common sequel of criminal abortion. The examination of a number of such abscesses following criminal abortion has revealed staphylococci, streptococci, diplococci, and the colon bacillus.

Tetanus following criminal abortion has been the result of severe traumatism. Sudden death in consequence of embolism has followed intrauterine manipulations with instruments and intrauterine air, water or glycerine injections.

The pathologic consideration of abortions produced by hot douches, irritating applications to the cervix, etc., is vague, as there seems no plausible explanation of the causal nexus between these means and the accomplished result.

Podalic Version vs. Forceps Delivery.

D. S. HANSON (*Cleveland Med. Gaz.*, June, 1900) wishes briefly to contrast the advisability, greater safety and easy application of podalic version in certain cases where forceps are commonly used with prolongation of labor and greater danger, therefore, to both mother and child. In speaking of forceps, simply the ***high*** forceps is referred to, for the other uses of forceps are under different circumstances. Theoretically, the axis traction forceps will follow the pelvic curve, but practically the symphysis is impinged upon to such an extent as to constitute a real obstruction, making delivery slow if not impossible. The danger of the forceps slipping and inflicting injuries on the fœtal skull is well known. Many a child has been sacrificed by the delay incident to the attempted use and failure of forceps, where version has been successfully done afterwards, but too late to save the child. In prolapsed cord podalic version has proved more satisfactory than any other method.

The dangers of podalic version are (1) rupture of uterus; but this is not likely to occur unless all of the liquor amnii has drained away and the uterus is firmly contracted; (2) sepsis, which can usually be averted by asepsis and disinfection; (3) shock; (4) hæmorrhage; (5) lacerations; (6) interference with the fœtal circulation by pressure

on the cord; (7) injury to nerves by traction on the neck; (8) attempts at respiration before head is delivered; (9) possible fracture of humerus in the effort to bring down the anus. All of these possible dangers to the child are more than offset by the delays and dangers of high forceps.

'A case of a woman of 42 whose previous labors had lasted from two to four days (the last time a dead child being delivered after four hours' work with forceps following three days of pain) illustrates the above points. As soon as the cervix was fairly well dilated and the head above the brim, chloroform was administered to the surgical degree, the child was turned and delivered with safety in about fifteen minutes.

Treatment of Albuminuria of Pregnancy accompanied by Gastric Disturbance.

EDWARD A. SCHUTZ (*Annals of Gyn. and Ped.*, June, 1900) was called to see a pregnant woman who was suffering from severe pruritus caused by an eruption resembling urticaria. The urine contained considerable albumin and there was gastric disturbance. Basham's mixture and remedies for dyspepsia were prescribed, but the patient grew steadily worse until she was almost frantic with the itching. A gradually increasing cystitis made its appearance, and the albuminuria continued. Taka-diastase, dissolved in a solution of iron and manganese peptonate was ordered at meal-time. The Basham's mixture was neutralized with ammonia and given three hours after meals. Within twenty-four hours there was marked relief, and complete recovery soon followed, with marked diminution in the quantity of albumin.

Stump Pregnancy.

J. C. MORFIT (*Med. News*, June 2, 1900) reports the case of a patient from whom he removed the right ovary and tube for pyosalpinx in 1897. Recovery was rapid. In December, 1899, she was attacked with intense pain in the right iliac region. When seen she had every symptom of hæmorrhage, extreme pallor, quick shallow respirations and pulse too weak to count. Temperature subnormal. She said that her menstrual period was two weeks overdue. After hypodermics of morphia and strychnia and the injection of a quart of saline solution into the rectum, she rallied. Examination showed the abdomen to be distended and tympanitic, with bulging and dulness in the lower part.

While plans were being made to move her to the hospital on the following day she went into a condition of profound collapse. Saline solutions and stimulation revived her somewhat, so that the next day she was removed to the hospital and a laparotomy performed with but little hope of her survival. The abdomen contained at least a gallon of clots and fluid blood. A forceps was applied to the proximal portion of the left broad ligament, knowing that the right adnexa had been removed. After removing the clots and blood it was seen that the oozing was from the stump of the old operation. This was only three-fourths of an inch long but was ruptured and a "fuzzy" placenta presented. Both tubes were then ligated as close as possible to the uterus and removed. For many hours the patient was in profound shock but rallied under heroic stimulative treatment, and made a good recovery. The fertilized ovum must have passed through the left tube and the uterine cavity into the remains of the tube on the right side where it developed and ruptured the tube.

Confinement following a Supposed Double Ovariotomy and Complicated by an Intestinal Hernia through the Old Laparotomy Wound.

C. Henri Leonard (*Medical News,* June 16, 1900) reports the case of a woman who had never menstruated regularly, the menses rarely appearing more than once or twice in a year, and then being slight and painless. When nineteen years old she had, as she supposed, both ovaries removed. After the operation, to her surprise, the menstruation became regular, of a monthly type, and continued so until four years after her marriage, when she passed two periods and morning nausea began. Two months later she was first seen by the writer. The diagnosis of pregnancy of four months was made, but the prognosis was hard to make. A hernia the size of two fists, irregular in shape, presented through the old abdominal scar. In some places the covering was so attenuated that it seemed like parchment, while the presenting intestine showed a bluish tint. The hernial opening was about one and one-third inches long and the protruding mass could be pushed back through it when the patient was lying down. The marginal edges were thick and firm except at the top and bottom, where they were so thin that it seemed as if they would easily tear to the top and bottom of the scar. The scar was about four inches long and had stretched to three-quarters of an inch wide. An abdominal belt with a concave pad had kept the hernia in place until the time of pregnancy, but now a *convex* pad was advised, three inches in diameter,

held in place by a wide, tight band of knitted silk and rubber. Gestation was not particularly complicated, and to the surprise of all the labor at term progressed rapidly to completion. The uterus was controlled by pressure over the old scar, and the hernia caused little trouble. The weakened abdominal muscles delayed but little, if any, the labor or recovery. A healthy male child was born, and the recovery was uneventful. The opening in the old scar was made no larger by pregnancy or labor.

The Prevention of Dystocia due to Fœtal and Pelvic Disproportion.

EDWARD A. AYRES (*Med. News,* June 30, 1900) asks to what extent the outcome of the fœtal passage through the maternal pelvis can be foreseen, and how may threatening evils be prevented. In multiparæ there is the history of previous labors as a guide, and in both multiparæ and primiparæ there are parental characteristics, pelvimetry, fœtal palpation, cephalometry and tentative engagement of the fœtal head—Müller's test. As a rule there is a slight, but progressive increase in the weight of infants from youthful parentage up to thirty-five years, and decrease thereafter. In considering parental characteristics the father is not usually taken sufficiently into account. The children of a large-boned, intellectual man are apt to have large head diameters at birth. There is greater liability to error where the external measurements are large than where they are small, for in the latter case careful internal measurements are more apt to be taken, and proper precautions observed; but with large external measurements there may be large, thick bones that encroach further upon the pelvic caliber than light bones of the same external measurements. Inattention to measurement of the pelvic outlet may occasionally lead to trouble, due to a funnel-shaped pelvis. Abdominal palpation can give only a gross idea of the fœtal size. Perret's system of cephalometry has been proved to be more nearly correct than others. When the fœtal head lies in a normal position between chin and occiput extension, the occipitofrontal diameter can be taken with his cephalometer. The biparietal is 25 mm. less in the average child. Out of 186 examinations his measurements were correct in 36, and in 140 the error was less than 5 mm. Müller's test may be made in two ways: by placing the fingers of both hands above the pubes and pressing the head into the inlet; or by holding the fingers of one hand against the head in the vagina, and pulling down on the head from above the pubes with the other. Where it is evident from these trials that disproportion exists there

must either be the induction of labor or the mother may be put on Prochownick's diet for the last two months to restrict fœtal growth.

Tumors complicating Pregnancy.

BROOKS H. WELLS (*Ibid.*) considers briefly the various classes of these tumors and their appropriate treatment.

Cancer.—In the early stages of cancer impregnation frequently occurs, and two-thirds of the cases go on to term, unless the mother dies from exhaustion or septic infection. In abortion there is great danger from sepsis and hæmorrhage. Thirty per cent. of the mothers die at term where the delivery is spontaneous, often from rupture of the uterus; and where forceps, version or craniotomy are employed, fifty per cent. die. Forty per cent. of the children are born dead, and the others are feeble. Where the condition is recognized before the third month the uterus and upper section of the vagina should be removed by vaginal hysterectomy or by Werder's operation. Where the condition is discovered later and before the child is viable, Werder's operation is by far the best. In the later months, out of consideration for the child, induced labor and hysterectomy or Cæsarean section and removal of the uterus and vagina should be done. If first seen when at term the disease tissue may be seen and cut away, with dilatation by multiple incisions. If the involvement be very extensive Cæsarean section must be performed.

Fibromata.—The chances of pregnancy are lessened and the dangers of abortion increased. Fibroids grow rapidly during pregnancy but often atrophy or disappear during the puerperium. The higher the situation of the tumor and the nearer it approaches the subperitonæal type, the less the danger. Fibroids cause irregular uterine contractions, predisposing to hæmorrhage. Placenta prævia and fœtal malpositions are frequent complications. Rupture of the uterus often occurs. The maternal mortality in these cases is about fifty per cent., and the fœtal mortality is nearly as great. With small subperitonæal tumors of the fundus and well advanced pregnancy an expectant treatment is allowable. During the early months of pregnancy myomectomy may possibly be done without interrupting pregnancy. Enucleation per vaginam is best where the tumor is at the lower part of the uterus. Interstitial tumors of the body call for supravaginal hysterectomy. With fundal tumors at term the points to be guarded against are hæmorrhage and inversion of the uterus. Ergot must be administered in all cases. A fibroid in the anterior wall may be pushed out

of the way in the knee-chest position. Tumors of the cervix must be enucleated. Fibroid polypi detected after labor must be removed. A radical abdominal operation is better than the risks of sloughing and sepsis often following forcible delivery.

Ovarian Tumors.—Early in pregnancy an abdominal section by an intermuscular incision for the removal of the cyst is best. After the fifth month, if the cyst is not large or impacted, the patient may be kept under supervision. At term Cæsarean section or supravaginal hysterectomy and removal of the cyst offer the greater chances of safety to mother and child.

In obstruction of the pelvis by other growths much better results are obtained, under modern asepsis, by abdominal operations than by attempting to drag the child through the natural outlet.

The Indications for Premature Delivery, with Special Reference to Eclampsia and the Pre-Eclamptic State.

S. MARX (*Ibid.*) says that the toxæmia of pregnancy causing eclampsia is a complex condition depending upon more than one factor but that urea is, in his opinion, the principal agent provocative of eclampsia. Many women go to term and are safely delivered with persistent albuminuria and casts in the urine. In some most desperate and malignant cases of eclampsia neither albumin nor casts have been found in the urine, but the amount of urea is *always* markedly diminished. There should be a regular and methodical course of urea estimation in all cases, relegating to secondary importance the time-honored examination for albumin. The total amount of urea secreted in twenty-four hours by a healthy woman should be about 500 grains. In underfed patients a smaller amount may be excreted without toxic symptoms. Excessive vomiting in pregnancy will also diminish the amount of urea excreted.

The induction of premature labor is never countenanced by the mere presence of albumin in large or small amounts and casts, but the prompt emptying of the uterus should be urged in all cases in which scientific medical treatment fails and the urine shows a persistently progressive diminution of urea. The absence of albumin or casts is no contra-indication to the necessity for the induction of labor in these cases.

Great Britain.

The Dublin Method of effecting the Delivery of the Placenta.

Henry Jellett (*The Dublin Jour. of Med. Sci.,* June, 1900) says that the method of effecting the delivery of the placenta by external manipulations, as opposed to its manual removal or its delivery by traction on the funis, was originated in Dublin. Credé's method, when originated *de novo* in Germany, was identical in principle with the Dublin method and rapidly assimilated to itself the Dublin method in its most important details. Inasmuch as there is no difference in the two methods and as the method was held in theory and practice in Dublin many years before Credé discovered it for himself, it should receive the name of the "Dublin method."

In the "Dublin Midwifery," published in 1742, Fielding Ould first recognizes the principle that the uterus should, if possible, effect the detachment of the placenta itself. In 1781 a work by Edward Foster recommends to prevent hæmorrhage and facilitate the expulsion of the placenta "immediately compressing the abdomen" of the woman by the hands of an assistant, or by a proper bandage tied around the body. Two years later William Dease shows an advance in the evolution of the Dublin method. He writes: "We should never in general attempt delivering the placenta until, by feeling over the pubis, we find the uterus in a round, hard state of contraction; that the woman has some pains, and that we find some part of it in the os uteri, so that it has been detached, and all we have to do is to favor its expulsion. Should the detachment of the placenta not be effected in the usual time, it will be much facilitated by the operator's applying his hand to the region of the uterus, which he may excite to the necessary contraction by gentle friction." M'Clintock credits Joseph Clarke with having introduced into the Rotunda Hospital the use of manual pressure upon the fundus until the placenta came away. Clarke was master there from 1786 to 1793. In 1835 Collins published "A Practical Treatise on Midwifery," in which he carefully and accurately describes the so-called Credé method in most of its modern details, but in M'Clintock and Hardy's work published in 1848 we find a clear and definite description and the statement that it had been practiced "from time immemorial" at the Dublin Hospital. Credé first taught clinically his method in 1853 and not until 1860 was his system brought prominently before the German medical world.

Hepatic Toxæmia during Pregnancy.

J. W. Stenhouse (*Med. Chronicle,* June, 1900) reports a case of

a woman, married two and a half years, pregnant for the first time. Her previous health had not been good, and three years before a physician had put her on a vegetarian diet, which helped her. During the first six months of her pregnancy she was in better health than usual. Then her legs began to swell tremendously, the skin being glossy and the œdema extending up to the lower ribs, although there was no fluid in the abdominal cavity. She was placed in bed and put on a milk diet, with diuretics and hepatic stimulants. On December 27th, the day before treatment began, she passed only six ounces of urine, which became solid on boiling and contained much bile pigment and urates. The liver was tender on pressure, its lower border half an inch above the costal margin and its dulness measuring five and a half inches in the line of the nipple. Under treatment free action of the bowels was obtained, and the quantity of urine was increased to about sixteen ounces daily. The stools contained no bile whatever, while the urine was full of bile pigment. The swelling in the legs increased and œdema appeared at the bases of both lungs, with some fluid in the abdomen. January 5th, the liver dulness measured two and a half inches in the nipple line and the liver was very tender. The patient's condition was becoming worse, and premature labor was induced. Hegar's dilators, Barnes' bags, and the bag of Champetier de Ribes were successively used; the latter remained *in situ* for seven hours without exciting a uterine contraction. Accordingly manual dilation was performed and a poorly-nourished seven-months' child delivered, which lived four days in an incubator. The day following the pulse was 110, and the temperature 99.4°. It had been normal before delivery. Teaspoonful doses of Epsom salts were given every hour and thirty ounces of fluid, free from bile, were passed from the bowel. The scanty urine contained much bile and albumin. After a hot pack the following day she passed a solid white stool. The bowels were much distended, liver dulness increased. The Epsom salts were continued and two days later the patient passed ninety ounces of urine and the discharges from the bowel contained a trace of bile. From this time on there was gradual improvement and a month later the œdema and liver tenderness had entirely disappeared. The urine contained a trace of albumin, but the stools were normal. The organ primarily at fault was probably the kidney, followed by the liver. It is not probable that the toxæmia would have produced convulsions, for the fact that the large bag remained in position without exciting contractions showed that the nervous system was not in an excitable condition.

GYNÆCOLOGY.

UNITED STATES.

General Remarks on Vaginal Hysterectomy.

BYRON ROBINSON (*Am. Jour. of Surg. and Gyn.*, May, 1900) states positively that more useful surgery can be accomplished per vaginam in cases of suppurative diseases of the uterine adnexa than per abdomen. The percentage of deaths is less, there is less pain and discomfort, recovery is more rapid, the danger of peritonitis is less, drainage is ideal, and if intestinal fistula exist or occur, such fistula often heals spontaneously, while in abdominal section intestinal fistula, as a rule, means death. The danger of vaginal prolapse or hernia is much less than the danger of ventral hernia after an abdominal hysterectomy. All pelvic suppurating cases, all pelvic diseases not reaching above the pelvic brim, and cases of ectopic gestation not reaching above the pelvis brim should be operated on per vaginam. Very few instruments are required, traction forceps, a pair of scissors and one or two retractors.

Removal of the tubes and ovaries does not always stop the pain, hæmorrhage or discharge, and in all cases where the adnexa must be removed it is better to remove the uterus also. For: (1) The uterus is useless without the adnexa. (2) The uterine walls are almost always diseased with infected tubes, and inflammation, endometritis and metritis persist for from six months to two years, not only being a source of pain but a starting point for further disease. (3) The menopause seems less distressing when the uterus is entirely removed, the neurotic symptoms being less persistent than when only the tubes and ovaries are removed. (4) After the removal of the appendages the uterus becomes a vestigial organ, a remnant, and such organs are always more or less dangerous.

If, after vaginal hysterectomy, the broad ligaments be drawn down into the vagina and held there by ligatures or clamps, the healing will draw the vagina up and lessen the tendency to shortening.

The most profound atrophy after hysterectomy occurs in young subjects. The atrophy of the pelvic sympathetic or the terminal portions of the hypogastric plexus, which includes the cervico-uterine ganglia,

is doubtless the essential factor in this peculiar atrophy. In hysterectomy the fourth sacral nerve is severed, but not the pudic proper, supplying the external genitals and the rectum. The question of the effect of hysterectomy on the rectum or on hæmorrhoids has received almost no consideration, and would be an interesting and profitable study.

Gynæcological Electro-Therapy.

GEORGE ADAM (*Pacific Med. Jour.*, May, 1900) says that electricity regulates the circulation of the whole pelvic cavity, corrects nutritional faults, stimulates functional activity, stops hæmorrhage, relieves pain, destroys microbes and causes retrogression of benign tumors. When scientifically applied it is absolutely without danger. Its sedative action allaying nervous iritability is also important. The object of its use for fibroid tumors is not, as many seem to think, the physical and chemical decomposition of the tumor brought about by the electrolytic action of the galvanic current. What is desirable, and what follows the use of currents of moderate volume and duration, is the setting up of a retrograde change, stimulating tissue waste and quickening lymphatic action so as to produce absorption and elimination of the products, thus shrinking the tumor. All fibroids in the early stages, especially the intramural variety, are suitable for electrical treatment, unless some condition in the pelvis, such as the presence of pus, forbids. The subperitonæal fibroids, when they are pedunculated and abdominal in situation, respond better to abdominal puncture. When the tumor is in Douglas' pouch good results have been obtained by placing the electrode in the vagina, pressing firmly against the tumor. Where the tumor is a fibrocyst or a very soft myoma, or whenever accompanied by acute or purulent pelvic lesions, the intra-uterine and puncture methods are contra-indicated.

As to the methods of application, as success depends on the action on the cells of the tumor and the inhibition of its blood-supply, especially by the stimulation of the uterine muscular fibers surrounding the pedicle, thus ligating the arteries at the main source of supply, it will be seen that the intra-uterine is the method usually indicated. Where there is hæmorrhage and the tumor is soft in character the positive should be the active pole. Where the texture is firm, with no bleeding, the negative is better. Alternation of the poles works well in many cases. The faradic current should be used for a brief time at the end of each treatment.

In displacements of the uterus the successful use of electricity rests in its sedative effect on painful and inflammatory conditions, its stimulating action on muscular tissues, and its influence in liquefying and absorbing exudations. Where the uterus is fixed in its malposition, vaginal applications of both currents must be used until a certain degree of mobility is obtained; here the negative pole is indicated. The intra-uterine application with the positive pole will overcome the sensitiveness, when the negative may be substituted. The slow, interrupted faradic is useful in breaking up adhesions where there is no pelvic inflammation. Catarrhal endometritis calls for negative galvanization. Care must be taken in withdrawing the electrode from the uterus in all cases, as there is often considerable adhesion of the instrument to the endometrium. Acute or painful conditions require currents of small amperage, while chronic troubles require greater force. Consciousness of the current at the internal electrode shows the limit. The faradic current should stop just short of causing pain. When stimulating currents are desired it is better to stop abruptly; when a sedative action is wished, gradually reduce it to zero. The employment of electricity in pathological conditions in which a lacerated cervix is a prominent feature will often render the laceration harmless by bringing about a proper involution of the uterus. Electricity is valuable as an aid to correct diagnosis, the suspected existence of cystic or cancerous degeneration being confirmed by the absence of symptomatic improvement. Where there is pus or acute pelvic inflammation the exacerbation of the symptoms following electrical treatment will do no permanent harm, but will indicate the nature of the trouble. In menstrual disorders electricity has no equal as a mode of treatment.

Treatment of Gonorrhœa in Females.

EUGENE C. UNDERWOOD (*St. Louis Med. and Surg. Jour.*, May, 1900) says that in women an acute attack of gonorrhœa usually begins with pain and burning in the urethra, followed by swelling of the labia majora and their agglutination by the attendant discharge. Pain during micturition is intense. There is purulent discharge from the urethra, vagina and usually from the cervix uteri. Chronic vaginitis frequently follows. The constitutional symptoms are pain when sitting or standing, fever, headache and thirst. Suppositories of opium are indicated for the pain, although acetanied sometimes does as well as a sedative and at the same time reduces the temperature. Acetate of potassium in thirty grain doses every two or three hours is almost in-

dispensable in the early stage of gonorrhœa. It relieves the burning sensation in the urethra. Hot poultices of hops assist in reducing the local inflammation. The astringents, zinc sulphate, lead acetate and especially silver nitrate in antiseptic douches are often more harmful than beneficial. An injection of one pint of a one per cent. solution of mercurol every two or four hours has given the best results in the writer's experience. It is non-irritating, and its use is followed by a gradual subsidence of the inflammation of the mucous membrane; it has, moreover, an immediate soothing effect, and has proved to be most destructive in its action upon the gonococcus.

The Hot Bath as an Aid in Abdominal Diagnosis.

GEORGE DOCK (*Western Med. Review,* May 5, 1900) advocates the use of the hot bath in place of an anæsthetic in cases where a satisfactory diagnosis is difficult by ordinary examination. The method is as follows: The patient is placed in a bath-tub well filled with water at a temperature of 100° and hot water is added until 110° is reached. In most cases complete relaxation will be obtained in from five to ten minutes at this temperature, but it may be raised to 120°. The advantages over an anæsthetic are several. The method is perfectly safe; it is much less disagreeable than inhaling an anæsthetic; and by having the patient's respiration under control, the action of the diaphragm can be called to aid in the examination. Lennhof and Berkhan advocated this plan some few years ago in Germany, but it has not been tried as it deserves either there or in this country.

Remarks to the General Practitioner regarding the Pessary.

FRANK C. HAMMOND (*Phila. Med. Jour.,* May 12, 1900) says that the first essential is to ascertain with accuracy if a displacement of the uterus really exists, and next if there is an associated inflammatory condition of the uterus or adnexa. Masses anterior or posterior to the uterus and fibroids in the uterine walls, anterior or posterior, have often been mistaken for a displaced uterus and treated by tampons and pessaries. Where there is any difficulty in recognizing the exact condition of the pelvic organs, an anæsthetic should be administered, preferably ethyl bromid. The muscles are then entirely relaxed and the condition and relations of the organs can be definitely ascertained, while if the fundus is slightly adherent, the adhesions can be broken up, and the organ replaced in its normal position.

Having ascertained the existence of a displacement, when is the use of a pessary indicated? If there be metritis, parametritis, perimetritis, vaginitis, salpingitis or ovaritis, the pain caused by a pessary would contra-indicate its use. These inflammations may be allayed by local tamponade and the consistent use of hot douches. If a tumor causes the displacement its downward pressure will be greater than a pessary could counteract. Where adhesions exist they must be broken up before a pessary can be used. When, by reason of laceration or subinvolution, the pelvic floor is so relaxed that it will fail to give a pessary a proper support, no good results can be expected from its use. The function of a pessary is to maintain a replaced organ in its normal condition, not restore it to its position. When properly adjusted a pessary should cause no discomfort, and its use must be abandoned if perfect ease in all positions cannot be secured. Stem-pessaries must be condemned without qualification. The Thomas-Munde broad posterior bar pessary is preferable for retrodisplacements.

A New Method for Retroperitonæal Drainage of Pyosalpinx, with a Report of Five Cases.

LEON F. GARRIGUES (*Med. News,* May 26, 1900) thinks that the removal of the tubes and ovaries for purulent collections should never be done until vaginal drainage has been tried. This procedure is not dangerous, in many cases effects a permanent cure, and even when this does not occur, the patient is left in a better condition for a more radical operation. J. Veit of Leyden mentions as a cause of failure of this operation the fact that only a part of a pyosalpinx is drained. This objection is met by the use of a T-tube of large size with the upper part of the T long enough to drain the entire sac and allow injected antiseptic solutions to reach every part of it. This tube may remain in place until all discharge has ceased.

Howard Kelly and others advocate puncturing purulent pelvic collections with a pair of sharp-pointed scissors, which are withdrawn open, and packing the cavity with iodoform gauze. The technique seems faulty, as hæmorrhages may follow, and perforation of the intestine may occur. Gauze-packing is painful, and owing to the tendency of the vagina to heal it does not drain properly. In cases of purulent collections not in contact with the vagina, Kelly advises a preliminary laparotomy, pushing the pus-sac down into Douglas' cul-de-sac, where it may be reached by vaginal puncture. Veit's method is to make an incision over the most prominent part of the swelling through the vaginal

wall, dissect bluntly with the finger toward the center of the mass until the resistance of the tubal wall is encountered, then perforate with a trocar or scissors, inserting a drainage-tube. This is very well where the sac is in contact with the vagina, or if enough exudate or adhesions exist to wall off the tube from the free peritonæal cavity, but this is not always the case.

The writer's method in the latter event is as follows: An incision is made at the uterovaginal junction, just behind a tranverse line drawn through the cervix on the side of the pyosalpinx and carried backward, following the contour of the cervix, close to the uterus, through the vaginal wall, for threee-quarters of an inch. In making this incision the uterus is pulled down and the vagina made tense with bullet forceps. Introduce the left forefinger, if the swelling is on the right side, or the right if it is on the left. The finger is gradually pushed higher, close to the uterus, separating it from the cellular tissue until the junction of the posterior cul-de-sac and the uterus, close to the broad ligament, is reached. After this care must be taken not to tear the peritonæum, which usually strips off readily, but, where the inflammation is of long standing, sometimes is difficult to separate. Continue this stripping of the peritonæum until the origin of the Fallopian tube is reached. The upper portion of this opening should be between the uterus and the folds of the broad ligament, and large enough to admit the index finger freely. The tube may be opened at this point if it be a prominent portion of the sac. But if the greatest bulge is more external, separate the layers of the broad ligament with the finger until the most prominent point is reached. Introduce, with the other hand, a pair of blunt forceps curved on the flat, and, while an assistant presses on the pyosalpinx from above, push them into the lumen of the tube, under guidance of the finger, and open them, allowing the pus to escape. This must be done with care and exactitude. Now introduce the finger through the opening in the sac, and make a thorough exploration to be sure that no compartments are left undrained; also to ascertain if an ovarian abscess exist. Should this be the case, separate the layers of the broad ligament still further, and puncture the abscess. A rubber T drainage-tube of large size and good quality is introduced with forceps and allowed to remain. Do not irrigate the abscess at the time of operation lest a minute opening into the peritonæal cavity exist and the peritonæal cavity become infected. The vagina is loosely packed with gauze.

Before the operation the uterus should be curetted.

The five cases operated on in the above manner made perfect re-

coveries, although the trouble in every case had been of more than a year's standing. The drainage-tubes were left in position for from three and a half to six weeks.

A Uterine Fibroid of Large Size successfully Removed.

R. E. HAUGHTON (*Amer. Jour. of Surg. and Gyn.*, June, 1900) reports a case of an unmarried woman of 25 years of age, who was referred to him for consultation. She had suffered from severe uterine hæmorrhage at each menstrual period, had consulted many physicians, several of whom, including her then attending physician, had diagnosed uterine cancer. She was extremely anæmic, emaciated and nervous. A physical examination showed the vaginæ to be blocked with a friable, granular material, easily broken up and removed. A double handful had to be removed before the os was reached, which was dilated to the size of a silver dollar, while the womb was as large as at the seventh month of pregnancy; there were occasional severe pains resembling labor. Within the womb could be detected a hard body, rough on the surface and immovable except with the uterus. A diagnosis of a large fibroid was made. The patient consented to an attempt at its removal. Ergot was given before the administration of the anæsthetic. The os was completely dilated and a pair of slender forceps introduced within the womb, grasping the tumor as if it had been a child's head. Traction was made, which dragged down both tumor and uterus. The pedicle sprang from the center of the fundus and was two and a half inches in diameter. It was ligated with a strong cord at right angles in two directions, and cut just below the ligature. There was a fear of inversion of the womb, but as the patient had never been pregnant and the amount of traction was lessened as soon as the pedible was reached, it did not occur. After the tumor had been removed the uterus was replaced and the ligatures allowed to hang out until they came away with the pedicle on the sixth day, leaving a raw, red surface which soon healed. There was no hæmorrhage at any time. Stimulants and tonics soon restored the patient to vigorous health, and she afterward married.

The Use and Abuse of the Vaginal Douche.

I. S. STONE (*Gaillards' Medical Jour.*, June, 1900) says that while the douche properly given is an important part of the treatment of several disorders, yet as usually administered it not only fails to benefit, but may do harm. Where there are pain and tenderness in the pelvic

regions and in some minor infectious diseases the douche is beneficial. The patient should always be in a horizontal position, the water should have a temperature of about 120° and there must be provided a very large douche-pan or one with an overflow tube, that the water may flow from twenty to thirty minutes without necessitating a change of position. Powerful antiseptics are no longer used in the healthy parturient canal and even in septic cases these douches are now restricted; while with a normal vagina and cervix the routine douching, as practiced by some women on the plea of cleanliness, is unnecessary and even harmful, washing away the natural and healthy mucus which should bathe the mucous membrane. Douching for a leucorrhœa is worse than useless where the leucorrhœa is of uterine origin. For vaginitis vaginal washes may be tried, but in cases of endometritis they should never be prescribed. The necessity of sterilizing the syringe tip is often overlooked, and by sterilization is meant a thorough boiling, not a short immersion in some antiseptic solution.

Preparation of the Patient for Gynæcological Operations.

AUGUSTIN H. GOELET (*Internat. Jour. of Surg.*, June, 1900) says that unless immediate operation is imperative it is unwise to submit a patient to anæsthesia or an operation involving exposure of the peritonæal cavity without sufficient preparation to secure activity of the intestinal tract and of the liver and kidneys. The exclusion of sugar and albumin from the urine is not sufficient, for the presence of bile in the urine is often a serious contra-indication to the administration of an anæsthetic, causing cyanosis, bad breathing, unusual disturbance of the stomach and distention of the intestines. In minor surgical operations a few days or a week will serve to prepare the patient. During this time the intestinal tract must be thoroughly emptied every second day. Twelve to eighteen calomel triturates, $^1/_{10}$ gr. each, given in one dose at bedtime, and followed in the morning by 30 grs. bicarbonate of soda in a cup of hot water, or two teaspoons of phosphate of soda in hot water is an excellent laxative. Compound cathartic pills work well in some cases. All starches and sweets should be forbidden. Beef and dry, crisp toast make a good diet. In rheumatic patients, and where the urine is loaded with bile, the treatment for these conditions may take a longer time. A quick saline cathartic early on the morning of the operation, and at least four hours before the operation, should be given, and after it acts the colon should be washed out with two quarts of warm water. If the patient be very feeble a cup of beef

extract may be given two hours before the operation, otherwise no food should be allowed. A daily bath, followed by brisk rubbing, three hours after the last meal of the day, is usually followed by refreshing sleep. If it be desired to tone up the system, shower baths in the morning with the use of static electricity are excellent. The shower baths should be commenced at a medium temperature, and gradually cooled. Most women drink too little water, and should be urged to drink freely of cool, not iced, water. If this advice is not followed, a pint of normal saline solution should be given daily by rectum after the bowels have ceased acting for the day. The patient must be impressed with the necessity of retaining this. The same course of treatment for a longer period is used in the preparation for major operations.

The Association of Chronic Appendicitis with Disease of the Right Adnexa.

HIRAM N. VINEBERG (*Med. Record,* June 2, 1900) desires to draw attention to the frequent association of a thickened and inflamed appendix with disease of the right adnexa. The diseased condition of the appendix is usually unmistakably secondary and the complication rarely gives rise to any symptom by which it may be recognized prior to operation. It is of importance to remember the possibility of such a condition before deciding on the route by which to remove diseased appendages. If the vaginal route be selected a secondarily affected appendix would probably be overlooked and would interfere with the patient's return to perfect health. There are many puzzling cases where there is no rise of temperature or extreme tenderness at any point, but mere general debility and vague pains in the right lower part of the abdomen. It is impossible to say in such cases whether there is appendicitis or diseased appendages. Frequently there is also found, as has been pointed out by Edebohls, a prolapsed kidney and a general relaxation of all the pelvic supports. In these cases the desirable course is to open the abdomen in the median line, when uterus, appendix and adnexa can be treated surgically as their condition demands. Where, however, previous to operation, firm adhesions of the appendix are suspected, the Battle-Kammerer incision through the sheath of the right rectus muscle may be adopted. Through this the right adnexa and even the uterus may be examined without too great trouble, and it is preferred by the writer to the more complicated incisions advocated by some. The removal of the appendix, whether healthy or diseased, as a routine practice in abdominal section for other pelvic troubles, is not commended.

GREAT BRITAIN.

Injuries of the Bladder occurring in the Course of Gynæcological Operations.

JOHN WARD COUSINS (*British Med. Jour.*, May 19, 1900) says that injuries to the bladder during operation are liable to occur in the removal of impacted and adherent tumors of the uterus and ovary, the organs and structures being so matted together by chronic disease that even with the most gentle manipulations it is difficult to avoid an accident. Sometimes the vesical wall is so much drawn up and dislocated from its normal position that it might easily be mistaken for a cyst. There is another accident that unfortunately cannot be detected at the time, but which may give rise to serious and alarming symptoms later on; *i. e.*, some invisible injury occurring during the separation of adhesions, or damage done to the vascular supply of the vesical walls. In one case perforation of the bladder occurring on the eleventh day after an operation for the removal of an enormous cyst, was undoubtedly due to an enclosure of a portion of the bladder wall in one of the ligatures, thus arresting the blood supply and causing softening and necrotic changes. Mirabeau describes trophic bladder affections associated with gynæcological operations due to contraction in the tissues near the bladder, the passage of a ligature into the bladder or the ligature of blood vessels supplying the vesical walls. In two cases examined by the cystoscope the mucous membrane was very pale, thinner than normal, with great œdema near the trigone.

It is important to know definitely if the bladder has been wounded. This may be tested by the injection of some weak antiseptic solution into the bladder. In rare cases the injury is so low in the pelvis and so difficult of access that secure suturing has proved impossible. In these cases careful drainage must be relied on and with this simple treatment patients have recovered by contraction and healing of the wound. The spontaneous closure of small wounds may be fairly anticipated, yet it is the surgeon's duty to secure all wounds as soon as discovered. The success of this treatment depends upon thorough disinfection of the seat of injury, the accuracy with which the stitches are inserted and complete rest of the organ. There should be two layers of sutures (unless the wound be very small), the first including the mucous and submucous tissues, and the second passing through the serous and muscular walls; this latter row should extend beyond the extremities of the wound a little way. The surface may now be

cleansed and dusted with iodoform. In some cases a self-retaining catheter may be used to keep the bladder empty. In other cases the introduction of a catheter every two hours is better. In excessive injuries efficient drainage may be secured by a vesico-vaginal fistula, uniting the mucous membrane of the bladder to that of the vagina. It is sometimes necessary to make some provision for drainage in closing the abdominal wound, especially in those cases where no wound of the bladder can be detected, but injury to the bladder walls from the separation of adhesions, etc., is suspected.

ITEMS OF INTEREST.

Mississippi Valley Medical Association.

Twenty-sixth Annual Meeting. Asheville, N. C., October 9, 10, 11, 1900. *Office of the Secretary, No.* 111 *West Kentucky Street, Louisville, Ky., June* 6, 1900.

We have received the following notice which will interest many of our readers:

Your attention is called to the twenty-sixth annual meeting of the Mississippi Valley Medical Association, which will be held Tuesday, Wednesday, and Thursday, October 9, 10, 11, next, under the Presidency of Dr. Harold N. Moyer, of Chicago. At a meeting of the Executive Committee held at Atlantic City, June 6th, the following were chosen to deliver the annual addresses: Dr. I. N. Love, of St. Louis, the address in Medicine; Dr. C. A. Wheaton, of St. Paul, Minn., the address in Surgery. The mere mention of these names is guarantee sufficient that the Association will hear only the best.

Negotiations are in progress by which members of the Association may obtain a one-fare rate for the round trip for this meeting. The Southeastern Passenger Association has already granted this rate, and it is believed the Western and Central Passenger Associations will concur. Due notice of this will be sent later.

It is earnestly requested that those desiring to read papers will send their titles to the Secretary within the next thirty days. It is also requested that a brief synopsis of the paper of not less than twenty-five words accompany the title.

The Association will not be divided into sections at this meeting. The headquarters will be at the Battery Park Hotel, at which place the sessions will be held.

Those who will read papers are requested to hand them to the Secretary—typewritten—for use of the Publication Committee.

Fraternally yours,

HENRY E. TULEY,

Secretary.

Pan-American Exposition, 1901.

BUFFALO, N. Y., U. S. A., July 3, 1900.

To the Editor of the American Gynæcological and Obstetrical Journal:

SIR: The Pan-American Exposition has seen fit to entrust the care of the Department of Ethnology and Archæology to a practising physician. I should be very glad if you would allow me to reach your readers with the following request for assistance.

Many members of the medical profession are interested in the study of American ethnology and archæology and not a few have valuable collections of Indian relics and skeletons from Indian graves. Those not directly interested in this study are so circumstanced as to be aware of the hobbies of their neighbors and could doubtless furnish the address of collectors. I should be greatly obliged for information and for the loan of collections for the use of this department of the Exposition. Exhibits which represent study in some special line of American ethnology and archæology will be particularly suitable.

A. L. BENEDICT, M.D.,
Supt. of Ethnology and Archæology.

New York School of Clinical Medicine.

We publish by request the following notice:

The New York School of Clinical Medicine has not been discontinued. Will you kindly publish this statement in order to refute the erroneous announcement to the contrary appearing in a few of the medical journals.

MARCUS KENYON, M.D.,
Secretary N. Y. School of Clinical Medicine.

Surgeons' Association, C. S. A.

NASHVILLE, TENN., July 5, 1900.

MY DEAR DOCTOR: The enclosed notice may be of interest to some of your readers, and you will greatly oblige me by giving same place

in the next or some convenient issue of your journal. With kind regards and best wishes, I desire to remain,

Very truly yours,

DEERING J. ROBERTS, M.D.

NOTICE.—All Surgeons, Assistant Surgeons, Acting Assistant Surgeons or Contract Surgeons, and Hospital Stewards, who served in the Army or Navy of the late Confederate States, will please send their post-office address to Deering J. Roberts, M.D., Secretary Surgeons' Association, C. S. A., Nashville, Tenn.

THE
AMERICAN GYNÆCOLOGICAL
AND
OBSTETRICAL JOURNAL.

SEPTEMBER, 1900.

REFLEX NEUROSIS FROM DISTURBED PELVIC MECHANISM.

By Byron Robinson, B.S., M.D., Chicago, Ill.

The testimony in favor of the production of reflex neurosis from dislocated genitals is ample for the gynæcologist. To the physician foreign to gynæcology from lack of knowledge and experience, clinical and anatomical facts, comparisons, methods of successful treatment, the domination of the sexual system and instinct and controlling power of genital reflexes over other viscera, in fact, all legitimate arguments of cause and effect, should be presented. Distorted mechanism of the pelvic structures causes genital dislocation. Dislocation of structures compromises circulation by the strangulation of vessels and thus induces malnutrition. Dislocation of structures traumatizes nerve-trunks and nerve periphery, causing pain and reflexes which radiate over nerve-tracts to other viscera and there disturb motion, secretion, and sensation. Tension placed on a woman through dislocated genitals, by compromising circulation and by trauma of nerve periphery, devitalizes her system and exposes her a prey to intercurrent disease and to the great functional neuroses (neurasthenia and hysteria). The gynæcologist by removal of the gynæcologic dislocation, *i. e.*, the focus of reflexes, can demonstrate that the reflex neuroses will disappear. In view of the prevailing difference of opinion between neurologists and gynæcologists as to the consecutive reflex neurosis of genital dislocation a careful weighing of the data is demanded. Careful, comparative examination of gynæcologic cases gives a definite series of reflex neuroses. It is admittedly difficult in each individual case to establish genuine genital reflex neurosis. The diagnosis must

be made for exclusion. Improvement of the dislocation and lessening of the reflex neurosis under rational treatment is ocular proof. Certain rare cases arise in which no palpable, pathologic anatomic changes are perceptible and still apparently the gynæcologic reflex neurosis exists. There are exceptions to the rule. If an organ becomes diseased secondarily to genital dislocation through reflex neurosis a correction of the dislocation may not always cure the organ. For example, if a round ulcer appear in the stomach secondary to gynæcologic dislocation and consequent menorrhagia, the cure of the genital disease would not cure the round ulcer of the stomach, which, if it bleed profusely, could be excised from the stomach wall, *i. e.*, requires a specific treatment. If a general disease, such as a cardiac valvular lesion, create genital dislocation through congestion, the dislocation may produce reflex neurosis but cure of the genital lesion does not involve the valvular lesion.

The logical force of circumstances impresses the practical gynæcologist that genital disease gradually spreads over the other abdominal viscera, disturbing visceral rhythm, circulation, secretion, and sensation by means of arcs of reflex action. Step by step, through compromised circulation, trauma of nerve periphery and infection of the genitals, the woman acquires indigestion due to perverted secretion —excessive, disproportionate, or insufficient. Malnutrition and anæmia follow from continued indigestion and finally neurosis, the inevitable consequence of progressive disturbed pelvic mechanism. It requires careful observation to discriminate the onward march of genital disease, since many complications arise to throw one off guard, such as lumbo-sacral pain, tenesmus of sphincters (anus, vagina, and bladder), hyperæsthesia of the vulva, tearing and dragging pain in the thighs (anterior branches of lumbar plexus), pain in coccyx, intercostal neuralgia, especially on the side of the diseased genitals, pains in the breasts and irregular muscular contractions. All these are only incidents in the onward march of a disease of dominating viscera, whose reflexes unbalance life's physiologic laboratory. My observation places 70 per cent. of disturbed pelvic mechanism on the left side; however, the neurosis shifts from side to side according to the renewed invasions of the genitals by disease. It is significant that the neurosis falls chiefly on the side of the disturbed pelvic mechanism. It is plain that the genitals have quite an independent nerve-supply and also stand in intimate relation to definite regions; in other words, diseased genitals have a predilection for certain nerves and nerve lesions. This fact is patent

in the functional crises, at puberty, during pregnancy, at menstruation, and at the menopause. In pregnancy the irritation from the genitals invades the stomach in a physiologic rather than in a pathologic degree. The grade of the genital irritation of pregnancy and menstruation seldom reaches a pathologic condition. During puberty, menstruation, pregnancy, and the menopause certain organs suffer, as the stomach, breasts, larynx and thyroid glands. The cranial nerves deserving mention for a special share during the above periods are the trigeminus and vagus, which may manifest not only excessive physiologic activity but an actual pathologic condition. The lack of mathematical demonstration of the share of the viscera and nerves in the above-mentioned conditions is because this sympathetic disturbance does not occur in every case. The close relation existing between ovarian disease and breast and iliac pain is often noted by the gynæcologist, as well as dragging pelvic pain and stomach disturbance in retrodeviations of the uterus. The significant and dominating influence of the genitals on the life of the individual is manifest by the exacerbation of the nervous conditions at *puberty, menstruation, pregnancy,* and at the *menopause, i. e.,* at the sexual crisis. If the genitals are healthy, distinct neuroses (functional) at the above phases of sexual exacerbation give a definite clue to the source of the nervousness. No other viscera except the genitals produce through physiologic activity exacerbated phases of neuroses. The sexual is the most dominating instinct in animal life. The physiologic exacerbation of neuroses is the most definite proof of their source, since the pathologic exacerbation of neuroses is so complicated that errors arise in tracing the origin. The coincidence of neurosis and menstruation induced Battey to perform castration in order to anticipate the menopause. However, it is my opinion he began at the wrong end of the genitals, for nothing stops menstruation like removal of the chief part of the organ of menstruation, *viz.:* the uterus (the oviducts may be left). Menstruation is a vascular periodic wave and belongs to the uterus and oviducts, not to the ovary. Hence, menstrual neuroses are cured by removal of the menstrual organ and not by removal of the ovary. Considerable worth should be placed on certain relations between neuroses and special phases of sexual life. It may be suggested that these sexual phases of exacerbation belong to life during the active existence of the uterus and oviducts, *i. e.,* or the menstrual organs—not during the active life of the ovary, for activity of the latter persists from before birth until the ovarian tissue is worn out at sixty or seventy years. It is an error to perform castra-

tion because the menstrual process coincides with the neurosis. In such a case, should an operation be performed, it ought to be hysterectomy and not ovariotomy; the organ which induced the neurosis should be attacked. However, it is simple justice to the patient to be morally sure before performing any operation that the organ to be attacked is the definite ætiologic cause, for other ætiologic factors may arise to unbalance the visceral nerves of woman; a stitch-abscess, a corn, or domestic irritation may simulate genital neurosis. Extreme precaution is required in diagnosing the neuroses of sexual organs. This fact is observed from the varied time that a neurosis may arise during menstruation. Menstruation is a complicated process; in other words, what is superficially known as menstruation is perhaps only a part of a comprehensive physiologic mechanism. During menstruation we observe swelling of the mucosa of the uterus and oviducts, supposed ripening and bursting of follicles (?), and various degrees of filling of the pelvic vessels peculiar to the wave movements or vascular pelvic rhythm, indicating blood-pressure. Almost any of the above factors may induce a menstrual neurosis, as the neurosis may occur in the premenstrual, intramenstrual, and postmenstrual period. Some neurotic factors may be displaced by exacerbation, and neurosis arises. The secretion, blood, may occur at, before, or after the highest *neural* menstrual wave. Menstruation is a chain of symptoms in which now one line and now another is put on tension. The tension link manifests the character of the menstrual neurosis. Another factor of menstrual chain, as accentuated by Kirro (1878), is that during menstruation swelling of the thyroid gland occurs followed by passive congestion of the cerebrum and consequent psychosis. Perhaps hæmorrhage from the nasal mucosa during menstruation is from congestion due to the sharing of the thyroid in menstruation and its capacious power of blood storage. With the above-noted complication and many others it may be observed how careful the physician must be to establish menstrual neuroses or psychosis. Continual psychosis can, no doubt, be exacerbated by the menstrual periodicity; also, in the periodic diseases there is frequently a neuropathic constitution that results from congenital defects or existing pathology. For example, who can measure the burden of a woman with non-development and atrophy, *i. e.*, before the uterus was fully developed it was attacked by inflammation, producing at first hypertrophy and ending in defective growth and atrophy. Such are among the saddest patients in my practice. They suffer not only from dysmenorrhœa and other painful neuroses, but from a psychosis due to inevitable sterility. Rachel mourns and will not

be comforted. The nervous irritation issuing from the sexual organs may be from disease or change of blood-pressure; in other words, from functional or anatomic changes. In neurotic individuals the neurosis exists not only at the menstrual wave but also in the intermenstrual time, when pelvic disease is liable to exist. When a certain congruence exists between the neurosis and the menstrual rhythm it is a strong indication that the neurosis is of sexual origin. Experimentally the congruence of neuroses with phases of the sexual organs is demonstrated by the disappearance of the neuroses after hysterectomy or correlation of the uterus and uterine deviations or the destruction of pelvic peritonæal adhesions or the removal of a pelvic tumor. Gynæcologists frequently note that a neurosis will begin with anatomic changes of the sexual organs and the neurosis exacerbates the sexual disease. The extent and the intensity of the pathology of the genitals may not stand in definite relation to the neurosis. One may observe large ovarian tumors without a trace of neurosis. From this clinical fact some have falsely argued that castration does not cure neurosis because disease of the ovaries does not produce it. There are factors in large ovarian tumors which explain partly, at least, why they do not produce a neurosis. First, the tumor has sufficient room to glide out of the way of pressure; second, the style is sufficiently long to avoid trauma from dragging or twisting of the pedicle; and doubtless the sensory nerves which supply the walls of the ovarian cyst have been stretched beyond their integrity and have ceased to transmit sensory disturbances. It is the small genital tumors located in the pelvis which are likely to be accompanied by neurosis. Such small tumors have a short style and are liable to dragging and twisting. They are subject to pressure from their immobility. The filling of the bladder and rectum traumatizes them and frequently a neurosis and a small pelvic tumor exist in causal relations. The life and action of nerves cannot be measured by the yard. Extreme neurosis may arise from the genitals by an irritation of the clitoris, a slight uterine deviation or a small scar, while no neurosis may be detected from extension, of sarcoma or carcinoma of the uterus or large ovarian tumor. Abdominal or pelvic tumors that give rise to a tendency to neurosis are generally from small, fixed growths (especially located in the pelvis) with short pedicles, situated within the range of trauma by muscular activity and by the expansion and contraction of organs.

The excitation or the inhibition of nervous attacks by artificial irritation is known to gynæcologists. Mechanical irritation of other viscera seldom or never creates a nervous attack. This experiment

indicates that the capacity of the genitals to dominate the nervous system is greater than that of other viscera. I was called in consultation in a typical case—a young woman in whom slight pressure in the ovarian region induced a wild hysteric attack, while vigorous pressure would inhibit it. Such cases, not rare, are a close demonstration of the dominating influence of the genitals over the system and also of the origin of the neurosis. To show how carefully one must discriminate the sources and kind of neurosis, a case from Professor Hegar may be placed in evidence. She was a young, non-neurotic individual who had a fist-sized, right ovarian tumor with a long style, which allowed extraordinary mobility; when the tumor glided into the pelvis she suffered from pressure and dragging sensations. She complained daily of dragging on the pedicle, pains in the lumbo-sacral region, shoulder, and iliac region. To be relieved from these tormenting pains she besought Professor Hegar to operate on her. She was without fever or pain for the first nine days—well and happy. On the tenth day she was found with tears and sorrow, claiming that all her former troubles had returned, and all embittered because the operation had not relieved her. The neuralgia, the cramps, the pressure, dragging symptoms, etc., all had come back. Professor Hegar noted that the patient had fever and, on examining the abdominal incision, discovered a stitch-abscess; this was opened and the pains disappeared and returned no more. This was a suggestive case, confirming the rule that when a subject is neurotic for a long time any bodily irritation may set going the old train of neurotic symptoms. In other words, a primary, complex neurosis, long continued, may be irritated by some distant local irritation. The secondary cause may be slight, such as a fright, an abscess, an injury, a disappointment or an exacerbation of disturbances in a menstruation. Doubtless, in the long continued neurosis a disturbed mechanism arises in the nerves, they lose their fine balance of integrity in motion, secretion, or sensation, and, being in a state of irritability, they are put to riot by any source of attack. It is in such unfortunate cases that the neurologist has lost sight of the primary cause, which was trauma and infection of the genital system, the dominating neurovascular viscera. For example, those who have much toothache know that any disturbance in health, as colds, getting wet, etc., will finally end in the old disease of toothache. The dental nerves having once become chronically unbalanced by trauma and infection, it is easy to light the old flame again. Observe the man who is suffering the remote effects of an ancient gonorrhœa, the stricture fires up with a cold, an extra drink of

whisky, or slight excess in coition. The old flame in the disturbed urethral mechanism my be initiated by remote secondary causes. The genitals are defective and do not resist. Demonstrations, by experiment, can be made to show that the neurosis depends on the genital disease. The reposition and retention of a dislocated or incarcerated pregnant uterus is frequently accompanied by a disappearance of the neurosis, while paresis of the lower limbs or uterine cough allows the pathology to recur and the neurosis is again set afoot. Paint the cervix with Ag. No. 3 solution and visceral vomiting follows. No doubt can arise as to the cause of the vomiting. But the terrific vomiting would not occur by painting other viscera not so richly supplied with nerves, such as the rectum or larynx. Professor Hegar had a case where he could repeatedly check a "uterine cough" or irritable cough by introducing a intra-uterine stem which straightened out an anteflexed uterus. In the amphibia, in dissecting animals that require a day to die, one can demonstrate ocularly that irritating the rectum (cloaca) will start up muscular contractions about the stomach. Doubtless the irritation to the sensory and secreting nerves is just as severe but it is not so easily seen. But every gynæcologist knows that some women with disturbed pelvic mechanism suffer from exacerbated stomach secretion and motion. It is important to demonstrate the causal relations and establish the location at the beginning. This is difficult from the complex, yet somewhat independent, sexual nervous apparatus that gives rise to the neurosis, from the peculiarly highly organized nervous system of women and from the further fact that reflex neuroses are quite indirect and slow in their progressive march. The original cause which may be years old is overlooked in the exciting symptoms. It is not difficult to connect a fresh anal fissure with its accompanying wild disturbance, but when the disturbed pelvic mechanism (the anus and bladder have intimate nerve connection with the genitals) progresses for long periods the cause is buried in the grave of years gone by. Long experience in digital examination is the prerequisite for accurate diagnosis of disturbed pelvic mechanism and for the interpretation of its reflex effect. The disturbed pelvic mechanism, the primary cause of sexual neurosis, begins from simple disturbances in the genitals, such as pressure or dragging of nerves. These two conditions may be combined and we cannot always discriminate one from the other. For example, in the frequent vomiting of early pregnancy it is impossible to say whether it is pressure or dragging upon the vesical nerves that induces uterine contractions and is followed by vomiting. After dragging or pressure (trauma)

of nerves has become initiated another more distressing trauma of the genital nerves follows from catarrh, erosions, ulcerations, and wounds which expose the periphery of the nerves—all inducing reflexes which radiate to other viscera, unbalancing their rhythm, secretion, and sensation. The compression (trauma) of nerve periphery arises from dislocation of organs, œdema, exudate, or tumor pressure. Such traumatic (compression) neurosis is common in gynæcology.

Compression of the periphery of the nerves may be due to cicatricial tissue of both the pelvic peritonæum and subserosium. Rich sources of nerve compression may be found in the inflamed posterior and lateral ligaments of the uterus, as shown by Freund and others. The hyperplastic deposits and subsequent contraction found in the uterus, ovaries, and connective tissue needs but be mentioned to be recognized. The contracting tissue of the uterus painfully hinders its expansion at the monthly period and the excessive ovarian cicatrices obstruct the expanding ovum and induce painful reflexes. The type of dragging neurosis is observed in sacropubic hernia or uterine prolapse and in retrodeviations of the uterus, the visceral prolapse gradually developing a complex neurosis of the lumbosacral region and thence spreading to unbalance the general abdominal viscera through reflexes of the abdominal brain. Dragging on the style of pelvic tumors is another cause. One may be able to measure, to some extent, the disturbance of dragging on nerves, on over-filled rectum or bladder. I have seen the pelvis, at autopsy, full to the brim with fæces. The dragging of free tumors on styles must be considerable, for strangulated axial rotation is not infrequent. The best illustration of suffering from a free tumor on its style is the right kidney. Its dragging and rotation gives rise to nausea, vomiting, pain in the back and thigh; excessive, insufficient or disproportionate secretion in the tractus intestinalis, inducing disturbances of digestion, and to similar disorders in the renal secretion.

Compression neurosis is indelibly associated with dragging neurosis. With inflamed peritonæal and subserous uterine ligaments reflex symptoms occur on standing, walking, and coughing. The reposition of the pelvic organs and their retention by a support relieves the symptoms. The cicatrices of the cervix and vagina may present compression or dragging neurosis, often accompanied, however, by endometritis, with exposed nerve endings, on which play visceral secretions. In acute flexions connective tissue changes cause pinching of the peripheral nerves, which manifest the neurosis chiefly as dysmenorrhœa. In endometritis with exposed nerve periphery the irritating secretions induce painful

uterine colic, calling up reflexes which reorganize in the abdominal brain and radiate to all abdominal and thoracic viscera, vitiating rhythm, secretion, and sensation. From the swollen endometrium the uterine contractions are futile to expel the secretions. The uterine contractions produce pain by compression of the nerves imbedded in diseased tissue. The gynæcologist has a typical case to show the traumatic neurosis of nerves compressed in exudates in the old operations of amputation of the oviduct and ligation with silk, where the silk ligature becomes infected from the diseased oviducal mucosa and an exudate arises with monthly exacerbations. It is not uncommon for such cases to last for three years, with terrible complex neurosis and untold misery. Hysterectomy cures such cases by stopping menstruation and relapses. If the uterus and bladder become imbedded in exudates their expansion and also that of the rectum is hindered, and severe reflex pains follow. Collection of secretions in the uterus induces contraction to expel them, and in contracting the uterus drags on the adjacent stiff exudates. All motion of the uterus, bladder, and rectum is accompanied by compression or dragging pains—neurosis from trauma. In connective tissue hyperplasia of the uterus the uterine contractions are often very painful from compression of the nerves imbedded in the cicatrizing tissue. In myosalpinx may be observed the recurring monthly exacerbations, the old train of neuroses from the oviducal colic, from congestion, contraction, or compression; lumbosacral neuralgia, however, the associated uterine congestion from adjacent disease, must not be overlooked. In some cases I have noted terrible neurotic symptoms from the amputated end of the oviduct being connected to a loop of the sigmoid by a peritonæal band. In one case in which Dr. Lucy White and I operated we found a thin peritonæal band extending from the amputated oviducal extremity to the center of the sigmoid flexure; this woman was bedridden for nearly two years with the most terrible neurosis. The severing of the thin peritonæal band enabled her to recover and gain some thirty pounds six months after the operation, with apparent perfect health. Her neurosis disappeared like magic. Peritonæal adhesions may bind the intestines and genitals together. Irritation of either the genitals or intestines influence peristalsis, and dragging pain and intense neurotic symptoms often follow in the wake. Visceral secretions and sensations are perverted. In such cases disturbances are after mealtimes and evacuations, and are caused by the induced peristalsis traumatizing nerves, imbedded in exudates and congesting vessels. In some young women following castration and in some others following the menopause, the vulva and

vagina atrophy. This doubtless is consequent upon vaginitis and atrophy of blood-vessels. The vessels atrophy irregularly (one can observe red, injected patches among the pale ones on the vaginal wall) and this irregularity causes local congestions. In cases of vaginal atrophy coitus enhances the neurosis on account of the narrow and sensitive vagina, and a kind of vaginismus occurs.

Nervous irritation may be occasioned by exposure of the genital nerve periphery from vaginal catarrh, papillary swellings at the vaginal introitus, or the meatus urinarius externus, or from fissures or erosions about the urethra, vulva, or anus. Such lesions are often exacerbation by urination, defæcation, coitus, or scratching, and may be accompanied by severe neurosis if allowed to persist for a long time. Progressive nervous affections rapidly radiate from the local lesion to the general visceral system. The irritation may remain isolated in the nervous system of the genitals for a longer or shorter period, but if long-continued or severe the neurosis eventually spreads to the general nervous system and is followed by indigestion, constipation, sleeplessness, and a state of more or less high nerve tension; in other words, a peculiar nervous irritability. Entirely isolated neuroses from the genitals are quite rare because the nervous apparatus of the genitals is so intimately and profoundly connected with both the cerebrospinal and the great sympathetic systems that disturbance in the rich nerves of the genitals spreads over the whole nervous system.

Besides, the disturbed pelvic mechanism often sooner or later invades the psychical apparatus and directs the mind to the diseased genitals with additional disadvantage to the individual. The general practitioner is very liable to treat the psychical or mental symptoms, forgetting that the disturbed pelvic mechanism is the rock and base of the neurosis. Not infrequently the psychical symptoms play the chief rôle in the disease. How often does the gynæcologist observe the general practitioner treating the psychical or superficial symptoms—cardialgia, sacrolumbar neuralgia, or sexual disease with little idea of its ætiology —though palpable in the pelvis? In short, the psychosis, which has a mental base, and the neurosis, which has a physical base, should be carefully differentiated. However, the psychosis is generally secondary to the neurosis, which latter generally has a palpable pelvic origin. It is what I shall term a viscious sexual circle, *viz.:* (*a*) disturbed pelvic mechanism, (*b*) neurosis, and (*c*) psychosis. This is accentuated in other ways by Hegar, Freund, Krantz, and others to whose excellent labors I am a debtor. More in detail, this viscious sexual circle consists of (*a*) disturbed pelvic mechanism (trauma and infection); (*b*)

indigestion (from disturbed visceral motion, secretion, and sensation); (*c*) malnutrition; (*d*) anæmia; (*e*) neurosis, and (*f*) psychosis. From the disturbed pelvic mechanism to the psychosis is a long, progressive march, a viscious sexual circle, direct and indirect, due to repeated reflex pelvic storms flashing over the other abdominal visceral plexuses. The viscera (as the stomach, kidney, and liver) possessing the greatest number of connective nerve-cords, and, hence, the least resistance, will suffer the most in their rhythm, secretion, and sensation. After this viscious sexual circle becomes established there exists a neuropathic condition. Primary and secondary symptoms then become difficult of differentiation. Direct and indirect symptoms become mixed and the clinical picture becomes obscured by its complexity. The causal connection between pelvic disease and neurosis (psychosis) becomes darkened and one cannot tell what is primary and what is secondary, especially when the patient comes to the physician late in the course of the malady. It is difficult to pick up any segment of the viscious sexual circle. Action and reaction are equal. We now have the degenerating influence of the general nervous system on the original disturbed pelvic mechanism. In the viscious sexual circle one should never disregard blood losses, as these often play a significant rôle. An ordinary monthly period makes women pale and, if slight additional losses occur, the effect is geometrically exacerbated. Excessive, deficient, or disproportionate blood-supply to the abdominal brain and its automatic visceral ganglia, due to reflexes, deranges visceral motion, secretion, and sensation. It would create in single viscera local disorderly reflexes. Aside from the viscious sexual circle I know of no experimental method to demonstrate it except the disease itself, which gynæcologists see daily. We must, as Hegar observes, be limited to the indexes of its course in order to diagnose and treat it. We must weigh each indication found in the progressive march of symptoms throughout the viscious sexual circle from genital disease. We must have definite stigmata to diagnose hysteria and not call every nervous woman a hysteric. The exclusion method must be employed for each and every diagnosis, and the treatment must include medical, electrical, surgical, and hydrotherapeutic measures as required. Treatment is experimental but should be rational. The rational diagnosis is to first establish some ætiologic pathologic factor, and attempt to improve or remove it. Sometimes a secondary factor, as constipation or gastric disease, requires attention in order to trace our steps to the original pelvic disease. We must attempt to pass back on the links of the causal chain to the swivel where the reflexes began and broke their bounds. De-

ficient renal secretion may be another secondary symptom which requires improvement before the waste-laden blood will cease traumatizing the innumerable ganglia which it bathes.

In the diagnosis one must observe local diseases in the body which are not of sexual origin. The sexual organs are not the only viscera capable of producing neurosis. Be always on the alert for visceral ptosis, tuberculosis, nephritis, and appendicitis. Of course, the non-sexual diseases may be coincident with sexual diseases, and both influence the neurosis and general nourishment. Make careful bodily examinations for diseases outside the genitals. Do not overlook heart lesions which allow congestions, hepatic sclerosis which induces some ascites, chlorosis which induces general paleness, with a large glandular system, yet coexists with a well-developed panniculus adiposus, headaches, and breathlessness, anæmia, etc., etc. In my experience nothing has been so successful as draining the skin by salt baths, the kidneys by drinking ample fluids, and the bowels by salines, with set hour for evcuation. Drainage of the bowels, skin, and kidneys is the rock and base of the therapeutics, which will benefit the viscious sexual circle. It is rational hydrotherapy. Thus, by treatment, we are often enabled to run over one difficulty after another until the ætiologic factor is reached, which is disturbed pelvic mechanism, the beginning of the viscious sexual circle. In other words, the microscope aids to diagnose tuberculosis or mercury to diagnose syphilis. In diagnosis and treatment the gynæcologist must always hold in his mental grasp every abdominal organ.

With the entrance and establishment of the neurosis and psychosis the sexual pathologic circle is completed and persistent rational treatment is required to break it. Now, any segment of the pathologic circle has a degenerating influence on the others. Pathologic processes can arise in other portions of the body, either coincident, independent, or as a result of the pathologic sexual circle. The gynecologist not only should have every abdominal organ in mind but should be able to exclude all other pathologic processes. Among the abdominal organs requiring special care in diagnosis are the stomach and colon. Stomach and colon diseases may lead to reflexes, hypochondria, neurosis, and even psychosis. Note what intense neurosis follows secretion-neurosis of the colon (mucous colitis); also, that slackening or paresis of the abdominal wall, accompanied by visceral ptosis and dragging on the mesentery, can lead to lumbosacral symptoms. For example, for years I have noted the hyperplasia of the genitals and hæmorrhage therefrom in mitral lesions of the heart. In this case

the heart disease is primary and the pelvic disease secondary. The genitals show varicose veins and the pelvic disease and hæmorrhage may become so severe that a neurosis results. In this neurosis the diseased genitals were only a link in the chain.

Of course, these conditions, variously known as neurasthenia, neurosis, spinal irritation, or hysteria, may exist without palpable sexual disease, but any gynæcologist knows that sexual disease plays an important factor and often enters in combination in their production.

Bibliography: Professor Hegar, Lohmer, Krantz.

THE CAUSES, DIAGNOSIS AND NON-SURGICAL TREATMENT OF PELVIC INFLAMMATION.*

By Edward J. Ill, M.D., Newark, N. J.

There is no other set of organs in the body so frequently subjected to inflammatory diseases as the pelvic organs of woman. One-half of the writer's patients in his hospital service at the time of writing suffer from such complaints and seventeen per cent. of the last thousand of his office cases are similarly affected.

The term pelvic inflammation needs a little defining. Its range is so wide that the writer feels that he should explain what is to be covered in this paper. He wishes to speak of inflammatory conditions of the pelvic peritonæum and the cellular structures immediately underlying it and so long as they are still subject to non-surgical treatment. For years there has been much confusion in the minds of the profession concerning these difficulties, much to the discredit of some of the large hospitals of the days when there was no end of post-mortem material for the study of this matter.

Pelvic inflammation is either of infectious or traumatic origin. It is therefore always a secondary disease and should not form a diagnosis by itself. The sooner we understand this the better we shall be able to adapt our treatment. Much difficulty is experienced by the clinician when he desires to describe a pathological condition and its therapeutics, so soon as he attempts to limit himself to a given organ. One organ is only a part of the whole, and a group of organs is com-

*Read by invitation before the Somerset County, N. J., Medical Society, April 26, 1900.

monly affected. This fact must be carefully considered and will hamper us somewhat in the treatment of the subject under consideration.

The causes of *inflammation* of the *pelvic peritonæum* are:

1. Infectious diseases.
2. Traumatism.

Under the first heading we have to consider gonorrhœa as by far the most frequent. While an infection of pure gonococcus is thought rarely to produce an extensive peritonitic inflammation or abscess, a mixed infection, *i. e.*, gonococcus with streptococcus or staphylococcus, will commonly produce such and is often the cause of a deadly peritonitis. There is no doubt that the mixed infection is more frequently a so-called secondary infection by pyogenic bacteria. The gonococcus seldom if ever affects the cellular tissue. There is no doubt, however, that it may grow through the tissue of the tubes, probably, for instance, by way of the lymphatic channels, and infect the peritonæal covering.

Whether a pure culture of gonococcus will produce a general peritonitis is a question which has not as yet been settled. Wertheim has proven conclusively that it does not do so in the white mouse or guinea pig. It has also been conclusively proven by Wertheim, Bumm, Schaffer and others that a pure culture of the virulent gonococcus will not produce a cellulitis by hypodermic injection. It is therefore most likely that the peritonitic exudate is simply the result of an inflammatory condition of the tube and ovary, and not always of a leaky condition of the distal end of the former organ. Much is still to be learned in this direction.

Tubercular inflammation of the tubes and ovaries forms an occasional cause for pelvic peritonitis.

Another cause for such inflammation is found to be unclean intrauterine instrumentation. The curette and the sound are much to blame for work of this kind, and he who handles these instruments should know how to avoid such dangers. He should be especially careful before such instrumentation to examine the tubes and ovaries for old, latent or quiescent disease.

Now and then we will find an inflamed appendix vermiformis which has strayed into the pelvis and has become inflamed and thus causes a pelvic peritonitis.

The writer has seen a typhoid ulcer of the ileum adherent to the tube produce the condition under consideration.

When the writer speaks of traumatism he has in mind several con-

ditions. Among the most frequent causes are the rupture of the Fallopian tube containing a growing ovum, an extraperitonæal hæmatocele, a disturbance in the circulation of an ovarian or uterine tumor by torsion or otherwise, an intraperitonæal hæmorrhage not due to an ectopic pregnancy, and, lastly, the leaving of large raw surfaces denuded of peritonæum after intra-abdominal operations. Extensive traumatism after labor, with opening of the pelvic peritonæum and secondary infection should not be forgotten. One will be called to see cases of pelvic peritonitis months after a ruptured tubal pregnancy. The adhesions of the ovaries, the distortions of the tubes, and the displacement of the uterus caused by it often give sufficient indication for abdominal section. These forms of trauma have been mentioned to draw your attention to the fact that a pelvic peritonitis is not always due to an infection, and in making a diagnosis these conditions must be taken into consideration.

As soon as we have mastered the causes of the disease the *diagnosis* is usually made without much difficulty. It is important to differentiate a pelvic peritonitis from a pelvic cellulitis, ectopic gestation, extraperitonæal hæmatocele, inflamed ovarian and uterine tumor, and a full rectum or bladder.

When we have an acute case we should have little difficulty in realizing the condition. There is rarely a chill. Fever is a constant symptom, though not necessarily of a high range. It is more or less severe according to the severity of the illness. The same may be said of pain.

Upon examination we should first inspect the vulva, vestibule and urethra and look for any suspicious pus. If there is any we are sure to find it in the urethra or peri-urethral glands. The finger will in the acute case tell us of a boggy resistance behind and at both sides of the uterus, which will be exceedingly sensitive to the touch and will firmly fix the uterus. At times there are large projecting masses on one or both sides of the uterus, which rise even above the pubes. On bimanual manipulation we shall often not be able to find the body of the uterus, but instead of it large masses above the inlet of the pelvis. A finger in the rectum will give us the sensation that this organ is more or less fixed and the inflammatory exudate, if it be large, will often cause much swelling of the mucous membrane of the rectum and tenesmus of that organ. Thick yellow pus will be seen to flow from the cervix.

When the acute stage is passed the resistance becomes more nodular, hard and often stringy. The great sensitiveness has not always

passed, but the uterus is fixed. Nodular and irregular masses will be presented to the hand, which presses down into the pelvis from above to meet the finger in the vagina.

The chronic stage is characterized at times by adhesions and thickenings in the pelvis sufficient to fix the uterus, tubes and ovaries; at other times the adhesions will be so slight as to be barely perceptible to the touch.

Treatment.—As the title of the paper indicates, the object of the writer is to speak of the medical treatment only. I am sorry to say that there has been and still is great neglect in this direction, and too much has been trusted to the knife. This is especially unfortunate, as we are told by a careful collection of statistics that but 60 per cent. of all cases that recover from operations are well. Our aim should be to conserve the pelvic organs of the woman so long as there is hope of subjective cure. It is for that reason that the writer wishes to bring to your notice such methods of treatment as have assisted him in reaching the desired results. The aim of the progressive surgeon is not to destroy or remove, but to save a diseased organ. We do not often remove a breast for an abscess, nor a leg for an inflamed knee-joint. Why should we be called upon to remove all inflamed pelvic organs? With patience, care and proper hygienic surroundings, many a woman will get well, subjectively at least.

In the treatment of these cases we must divide the conditions into the acute, subacute, and chronic.

In the acute stage it will be well to first ascertain the cause, though the cause, unless it be tubercular, does not very materially change the character of the treatment. Take the most common cause, gonorrhœa. The patient should be kept quietly in bed, the bowels thoroughly emptied by a saline cathartic or one of the bitter waters. This should be repeated every second day. The diet should be a bland and liquid one so long as the temperature is above 101°. The pain is most readily controlled by an ice-bag placed over the hypogastrium. It is not wise to prolong the application of the ice-bag, as the writer has seen a slough follow its long-continued use. Nor does the patient bear it well when her temperature has fallen below 101°. The vagina should be douched with hot permanganate of potash solution ($^1/_{2000}$ of water) several times daily. When the discharge is very copious it is sometimes wise to fill the vagina with iodoform gauze. When it is found that the fever has abated but the pain still continues, thus bringing us to the second stage of the disease, nothing will relieve

so much as a fly blister one by two inches square, placed directly over the location of the pain, usually just above Poupart's ligament.

When the swelling in the roof of the vagina is very great and there is great sensitiveness to the touch, the writer frequently applies cantharidal collodion around the cervix. Care should be taken lest the collodion flow down over the vagina, to the great discomfort of the patient. A pledget of dry cotton is placed over the application, and directions are given to remove it in four hours. A very copious purulent discharge results, which lasts for two or three days. It is very irritating to the patient, and she should therefore be directed to douche several times a day, so as to wash away the ichorous material.

Now the time has come for daily applications of a 10 per cent. solution of ichthyol in glycerine. This can be done with a Thomas applicator by the patient herself. It is best to make the application in the evening and remove the tampon in the morning. This should be followed by a large vaginal douche.

The blisters, both external and internal, may be resumed in from five to eight days. The relief they give is so great that the patient rarely objects to their use. Not only is the relief of the pain great, but there is a marked diminution in the size of the swelling and in the bogginess of the parts. When the exudate has become so large that the pressure exerted on the rectum produces rectal tenesmus and copious discharges of mucus or mucus and blood, an opium suppository gives great relief. Whenever it is thought wise to give an opiate it is best to administer it by the rectum in all of these cases. Relapses are common in this disease. They are usually produced by the congestion accompanying the menstrual period, sexual excitement, exposure to cold, especially wet feet, etc. Of these we are able to avoid all except the menstrual period. About a year ago a short note was seen in one of the journals speaking of a treatment inaugurated by Prof. Grammatikati of Tomsk, Siberia, which promised to produce a temporary cessation of the menstrual flow. The writer thought this of so great importance that he wrote to Prof. Grammatikati for a more detailed account of the method. We are now giving this method a trial and expect to give a detailed account of the results of this treatment at a later time. The treatment of the chronic form consists in an endeavor to produce an absorption of the exudate and adhesions and to replace the displaced organs. We must feel our way carefully, for nothing is so liable to kindle a new inflammation as rough handling. It will be wise to assure ourselves that there is no pus in the tubes or ovaries before any severe mechanical treatment is instituted. We

may begin by painting the roof of the vagina with the compound tincture of iodine and applying the glycerine ichthyol tampon. If this is borne well, the painting with the iodine may be followed by a dry oakum tampon firmly pressed into the posterior fornix of the vagina and held there by another tampon placed underneath. As the patient is found to tolerate the pressure the oakum tampons should be increased in number until the whole vagina is firmly packed. These tampons can be retained for forty-eight hours and withdrawn by a string attached to them. A little bismuth or boric acid blown into the vagina with a powder blower will avoid excoriation of that organ.

On the two days following the removal of the tampons the patient should be directed to take a large, hot vaginal douche night and morning, preferably in the knee-elbow posture. In these cases much good has resulted, in the hands of the writer and his assistants, from the Thur Brant method of pelvic massage. It consists of treating these chronic cases, *i. e.*, the adhesions and the chronic thickening of the tubes, uterus and broad ligaments, by systematic massage. To describe the method fully would exceed the limit of this paper. Let it be said in general that the tissue which it is desired should receive the benefit of the treatment is caught up between the finger in the vagina and the hand on the abdomen. By gentle but firm rotary motions of the external hand the endeavor is made to gradually break the adhesions and reduce passive congestion.

Unfortunately, the busy surgeon often neglects this treatment for the more brilliant and rapid surgical procedure, but not always to the benefit of the patient. Special training is necessary in order to attain good results, and you will pardon the writer if he passes this by simply drawing your attention to it. He has, however, seen much good result from it.

By *pelvic cellulitis* we understand an inflammation of the cellular tissue between the various folds of peritonæum as they cover the pelvic organs.

It is always a secondary inflammation of the lymph channels and veins from a break in the continuity of the mucous membrane, and an infection from this source. It is frequently accompanied by a pelvic peritonitis. This break may be so small as to form but an erosion, or may open deeply into the cellular tissue proper. It is most commonly the result of puerperal and now and then of instrumental traumatism. Occasionally erosions about the anus are the cause. Puerperal laceration of the cervix and subsequent infection are to be blamed most frequently for the disease. It may result in but slight swelling and œdema

of the cellular tissue or in severe and diffuse suppuration and necrosis leading to fatal results in a few days. It may begin in an almost chronic form, simply producing a contracting cicatrix and atrophy of the cellular tissue with its many accompanying symptoms.

When we have late puerperal infection, say two or three weeks after parturition, we shall more likely have a tubal and peritonitic gonorrhœal inflammation than a cellulitis. This becomes the more likely the later the attack occurs.

The symptoms usually start with a chill and high fever. Sometimes the pain is acute, at other times a dull aching. The symptoms of sepsis, as shown by great prostration, rapid pulse and anxious face, are often very marked.

Upon examination we find a gap in the cervix, often covered with pus or a diphtheroid deposit. The sensitiveness is confined to the side of the gap and touch shows an œdematous condition in the base of the broad ligament directly under the vagina. Later the swelling becomes very great and may extend far above Poupart's ligament, usually on one side, at times on both, producing much fixation of all the tissues. On the other hand, the swelling may extend deep down along the vagina or rectum. The writer has seen the posterior fornix of the vagina pushed down within an inch of the vulva.

The first thing in the treatment of a puerperal lymphangitis is to inspect carefully the origin of the disease. The abrasion or fissure in the cervix should be looked for, carefully cleansed and kept clean. Thorough swabbing with hydrogen dioxide, followed by an injection of a 5 or 10 per cent. mixture of iodoform in glycerine into the vagina, while the patient is on her back with raised hips, is usually sufficient. The fluid will wash about the cervix and deposit the iodoform while the glycerine soon flows off with a large quantity of water drawn from the tissues.

If the infection be so severe that it has already produced an induration in the base of the broad ligament the treatment just spoken of should be repeated once a day, or large, hot, permanganate of potash or lysol douches should be given. When a mercuric bichloride solution is used it should be a very weak one, as a vaginitis soon results from it. It is, therefore, better to use hot water only, especially when we now know that the fissure is thoroughly clean. When hydrogen dioxide and iodoform glycerine are not at hand, it is good treatment to swab out the fissure with alcohol and place a piece of gauze dipped in the same into the fissure and cover all with sterile or iodoform gauze.

So long as the fever remains high and there is apparently no sup-

puration an ice-bag should be placed over the affected side. Of course, as soon as suppuration has been established the medical treatment ceases and surgical begins.

In *tubercular inflammation* of the pelvic organs we must not lose time by local and medical treatment, with which measures it will only get worse. Such a lesion should be treated like a malignant ulcer.

1002 Broad Street.

SOME LOCAL NUTRITIVE INFLUENCES IN THE PELVIC DISORDERS OF WOMEN.*

By O. B. Will, M.D., Peoria, Ill.

I should hesitate to present to this learned body anything short of the profoundest dissertation possible, were it not for a realization of the fact that our everyday thoughts and acts occupy so large a space in our professional lives as to reflect more accurately than all else the springs of our professional success, and consequently merit occasional voice even though they seem commonplace. Nothing more than simple routine can be claimed for what the writer has to say; and yet in a practical way it has been to him of more real value than many of the ultra refinements of diagnostic and therapeutic skill. Reiteration and suggestion are in themselves forces of no mean value, and make for a consolidation of right principles and practical truths. In the present instance, therefore, the writer will have accomplished his primary purpose when he has formulated his convictions respecting a theory and a course of action, even though both may have been long since practically recognized by others.

The method of the Virginia doctor of the olden time, who hung his negro slave patients up by the heels and poured their vaginæ full of decoction of tan-bark, typified in most essential particulars the efforts of the present day to correct the common disorders of the female pelvic organs. It practically recognized much of the true pathology, and has its counterpart in the modern positional treatment, massage and tamponade. The conditions of engorgement, inflammation, misplacement, and hyperplasia, although not then as now looked upon merely for what they are worth as secondary factors in the morbific

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entities of malnutrition and infection, were at least accepted as matters of fact, and handled under the philosophic dicta of experience.

Under the aforementioned phases of ætiologic knowledge a somewhat different aspect of affairs is presented. The prime factors in ocular and tactile demonstration yet exist, but the theories of their genesis and details of management are adapted to the latterly discovered unities of origin.

It is the object of this paper in the first place to add a mite of personal testimony in maintaining the theory that the female ovary furnishes a product concerned in modifying the tissue-forming processes of the general system during the mid-period of life and more markedly of the tissue anabolism of the generative organs themselves, and by virtue of structural continuity and ease of transit of that of adjacent parts, thereby rendering them peculiarly susceptible to the morbid changes so constantly observed; and in the second place, to assist in formulating a course of treatment in consonance with this view and more directly and specifically efficient in correcting the consequent aberrations of structure and function.

The hypothesis of the ovarian origin of a *morbus causa* is not at all unreasonable in the light of ascertained facts. If there is one thing more patent than another to the ordinary clinical observer in this class of cases, it is that there are certainly present in the locality involved determinative influences of some sort largely independent of, and in some sense foreign to, those of other organs of the body. Influences that differ in quantity and activity if not wholly in character, from any elsewhere operative in the economy. If this is true, a working conception of such forces must be of grave and vital importance, and we should endeavor to know them.

While an application of the law of physics has given some insight as to the etiology of morbid pelvic conditions in women, there yet remains much for definite and satisfactory determination. In the more ultimate line the indications are that biological chemistry is destined to give, as it has already in some measure given, much valuable aid. Researches into the production and character of chemico-physiological substances and their influence on metabolism, only serve to confirm the suspicion of acute clinical observers, that Nature provides herself with some direct, active, nutritive influence on the organs immediately concerned, quite in harmony with her major reproductive designs, and whose perversion in point of character or intensity is often the occasion of untoward and disorderly results: results not only immediate, but remote as well, in constancy and significance. It seems

unreasonable to suppose that the mere development of an ovum—a differentiated cell—can produce so marked an impression, and such a profound disturbance in its somewhat extended, vascular and neurotrophic area, through the ordinary channels of excitation, however multiplied and highly developed. The characteristic influx of hyperactivities cannot be accounted for on any ordinary physiological grounds. The development of the male element is not accompanied by any such profound disturbance of the nutritive forces, and purely anatomical, geographical, and reflex considerations are insufficient to account for either the wild perturbation of local forces prior to the cessation of ovulation, or the quiescence and retrogression which succeed to that period.

To the clinician, therefore, it would seem that there must be some specific exciting cause for these disturbances, born with their instigation, and independent of the common neurovascular attractions of an independent growth, however intimately the latter may be anatomically associated with the affected tissue area. The discovered facts of biologic science, such as before reverted to, are daily pointing more and more emphatically to the influence of chemicovital products on tissue genesis. Such is the case even in the ultimate sphere of cell-proliferation in early generative lines, and there is nothing improbable in the deduction that localized influences of the kind may intensely modify nutritive activities and products within the scope of the immediate vascular and nervous connections of the reproductive organs of woman.

It is the assumption of the writer that the engorgements, the hyperplastic, and hypertrophic conditions so constantly found to imperil the integrity and functional activity of the female pelvic organs are largely due to such an extranutritive impulse of material character direct from the ovaries. It is assumed, from clinical evidence as well as biologic analogy, that this impulse acts upon the local circulation, and through both the local and general neurotrophic connections, but expends a much larger proportion of its energy upon the former. While the systemic disturbances are usually such as to indicate, by a common symptomatology, the evolution of an exciting product of what may be called the toxicophysiological type, there is in these local activities evidence of a predominant local irritant. From the period of puberty to that of the so-called climacteric, indications, as stated, are abundant that the female organism is under the influence of such an agent, whose genesis is co-extensive and co-ordinate with this same interval limit. Not only is this demonstrated in a subjective,

but in an objective way as well. And at the same time the origin of the principle is thereby definitely and conclusively traced to the functional activity, or at least metabolic tissue change, of the ovary itself. Any one who has witnessed the marked effect in some cases of the administration of ovarian extract, in attempt at immunizing more gradually against the disturbances of too sudden interruption by operation, of the equilibrium normally sustained, by the organic product under discussion, can but have recognized not only the immediate relationship of cause and effect, but an evidence of the subtlety and certainty and near-reaching as well as far-reaching import of this organic emanation in the vicissitudes of female existence.

It was an acceptance of the theory of the pathologic attitude of this specific ovarian principle that led the writer to a fuller consideration of its real influence, and the best means of eliminating the associated morbid elements present in the female pelvic organs, and supposed to be connected with it in an ætiologic way. In this attempt the long recognized grosser elements could not be profitably overlooked. The mechanical influences found to obstruct and retard elimination were to be taken into consideration as factors of both pathology and therapeutics; in the former instance serving to concentrate the irritant principle to a narrow field of operation, and in the latter connection to serve, by their inversion, the purpose of diminution.

To one who has not given the subject practical and systematic attention it is marvellous how much for improved nutritive conditions can be accomplished by position and mechanical stimulation. Authors have from time to time reverted to these expedients, but surely without creating much enthusiasm in the professional mind. The writer feels constrained to believe that there are no measures more constantly misconceived and more wrongly applied. In all the congestive, inflammatory, and hypernutritive conditions of the pelvic organs, the pathologic influence of *position* is of the greatest importance. Therapeutically it may be made a factor of equal value. The force of gravity is a telling one in this respect as it is in the pathology of the parts. Its *maintenance* has been the difficult problem in connection with its utilization. After much experience the writer is impelled to value highly a proper resort to the necessary measures involved. In referring briefly to the salient features of these therapeutic allies he wishes to say that no specially tiresome attitude can be acceptably insisted upon or efficiently resorted to. That best adapted to conserve all vital interests in these respects is the one in which the patient is placed in the left or right lateral position on an adjustable

chair or table. This is then exaggerated by lateral inclination and inversion to the greatest extent consistent with the maintenance of the position and perfect relaxation. To many patients this is really a great comfort, and its continuance for a considerable time alone a valuable preparatory procedure in anticipation of the subsequent details of treatment. Following this up by manipulations of the massage type, while standing at the back of the patient, who is freed from all compression of clothing, a finger or two, say of the right hand, is introduced into the vagina while the left is placed firmly upon the lower abdomen, so as to admit of grasping, or at least compressing, the fundus of the uterus through the intervening tissues. In this way, if no adhesions exist, the uterine body can, as we all know, be raised out of the lower pelvis, reposited if retroverted, and, in short, made to assume any position desired. These are simple facts connected with everyday experience, but their significance is seldom duly appreciated in connection with the possibilities they involve through continuance and repetition. It is not this condition of mobility that alone renders the usual system of massage applicable to the therapy of the pelvic organs, but freedom from adhesions is a very essential feature for the best results whether the influence of position is mainly sought or not.

Local massage is a therapeutic measure of the greatest utility in many of the discordant pelvic conditions in women. Its effect upon the nutrition of the parts is, of course, the essence of its value. The implied division into the mobile and the fixed tissue-condition marks largely the dividing line of practical procedure. In both instances the position of the patient should properly be that described. All efforts demand the utmost attention to aseptic conditions. Given these, the aim in the first place should be to encourage circulatory activity. As in general efforts of the kind, this can be best secured by stroking movements, directed in accordance with the anatomical status of the parts. With well-anointed fingers and moderate pressure the first movements are against the vaginal walls from the introitus vagina to the latter's vault, throughout the circumference of the canal. The cervix uteri is then seized between the finger tips and subjected to repeated pressure. While firmly held down by the hand over the fundus, the uterus is stroked upward and outward into the broad ligaments, and into those anteriorly and posteriorly, alternately. After a rest of five minutes for relaxation the movements are again made in similar order, and repeated for three or four times at each séance.

Under circumstances of more or less exudate and fixation the manipulations must partake of a somewhat different character. Instead of the stroking movements, with their resiliance of response, there is demanded rather a series of deep pressures and borings, so to speak, into all the involved tissues, for the purpose of mechanically changing the relation of their minuter structural elements, breaking down adventitious tissue and promoting retrograde metamorphosis of all redundant organization. This requires a perceptive tact of no mean quality, as the movements must in nature and force be commensurate with and adjusted to the degree of sensitiveness existing, and may be accomplished not only with the finger tips internally, but in the case of deep vaginæ or fleshy patients may be materially enhanced by mechanical appliance, such as a small ball on a long, stiff handle, as some of the forms of vaginal electrode. This may be lightly covered with moist cotton, to make it a little more elastic, and then anointed with vaseline for the purpose. The degree of resistance can be estimated, and necessary counter-pressure secured, by the hand externally over the lower abdominal region.

But after all, the manipulations thus briefly described and generally recognized as of much value in modern therapy are merely incidental features to the main object of this paper, which, as intimated in the expressed views of ætiology, is aimed to aid in pointng out some agency or agencies whereby to neutralize the assumed active, specific determinant of local blood stasis and morbid tissue metabolism.

In connection with experiments in this direction the first active principles or influences to suggest themselves were those known to control the menstrual flux. The most prominent of these were galvanism and the salts of iodine, both of which are known to be capable of indefinitely arresting the discharge accompanying ovulation, whether or not the latter function is itself materially interfered with. At all events, the combination seemed to promise most and to be worthy of an extended series of experiments in a purely local way, and a couple of years' close observation of results has enabled the writer to draw some conclusions and entertain some decided opinions respecting the method and consequences of their systematic use. To say that the results have been *entirely* satisfactory in all cases would be putting it too strongly, but to maintain that they have proven highly advantageous would but illy express the feelings of the writer, and those of scores of his patients who consider themselves absolutely well, and whose freedom from suffering and ability to attend to all the

duties of life in comfort after having been for years consigned to chronic invalidism, justify them in the assumption.

The routine method to which the writer refers is as follows: The patient is placed in the favorite position for massage before alluded to. That feature of the demands of the individual case having been attended to as described, the uterus is exposed by the Sims speculum, and into the interior of that organ is passed by means of the intra-uterine syringe about one dram of a two- or three-per-cent. solution of cocaine, followed in five minutes by an equal quantity of a saturated solution of potassium iodide. No attack of uterine colic follows this procedure. Into the vault of the vagina, and closely about the pendent portion of the cervix, is packed absorbent cotton saturated with the same potassium solution, the whole covering well the presenting parts. Against this is placed a small carbon electrode lightly covered with cotton. This is attached to the anode, the spongiopiline pad over the abdomen in the usual manner, supported snugly by compress, representing the cathode of the battery. Twenty to forty milliamperes of current are then applied and continued for full half an hour, and sometimes twice that. The cotton is then removed and the upper portion of the vaginal cavity packed with dry antiseptic wool, to remain for two days. This treatment is repeated once in five days, for three successive times, and then once each week for an indefinite time, depending upon the exigencies of the case, and subsequently once a month, one week or eight days prior to the menstrual period, for possibly several months, or even a year under particularly bad conditions.

This, then, represents virtually the sum total of the writer's technique, and after an experience of nearly three years he is ready to estimate the value of results. It would be pleasing to him, were it not superfluously unnecessary at the present time, to give in detail the history of a few cases in evidence. Suffice it to say, however, that he would not now abandon this course of treatment for any other thus far definitely brought to his notice. The results have been eminently satisfactory, and whether they serve or not to sustain the theory of a localized material morbid excitant of ovarian origin, the treatment has accomplished the neutralization of the disturbing element and crippled its evolution so markedly as to maintain for a lengthy period a state of innocuousness. Certainly there has been obviated any concentration of its influence on local nutritive demonstrations, and the latter have become orderly and quiet. How much of this has been due to

the electric current's metabolic action, and how much to the affinities of the iodide, the writer is unable at present to compute. Skepticism as to the efficacy of the former had become so rampant that nothing short of a miracle could induce some people to withstand the odium of its use, but the fact remains beyond all cavil that the combination of electrochemical energy, anodal diffusion, and the iodine has succeeded, where all other means failed, in producing apparently such an intracellular readjustment of atomic composition as to regenerate nutrition of all the concerned tissues and reëstablish their functional activity and prestige. Under the treatment instituted as described a katabolic change has been confidently surmised, to the verge of a tenuity commensurate with the merely physiological demands of the structures and functions evidently reëstablished that had lain dormant for a long time. Under the course of treatment referred to the uterine tissues, firm as they usually are under hyperplastic conditions, become softer and more resilient and the organ itself lighter. The tissues of the adnexa partake of this change, as do all the associate and adjacent structures, and particularly those of adventitious nature; adhesions and exudates. Inflammatory changes in the mucous membrane are likely to disappear, as do most certainly those of localized peritonitis, as well as the local soreness and pain. The local sensory as well as neurotrophic conditions improve in tenor, and have a delightful influence upon the subjective sensory evidences of nutritive improvement.

Finally, while the claim that the aberrations of local health herewith considered, as induced or aggravated by some metabolic ovarian excitant, evolved under stress of functional demands, may be questioned, the improved conditions unquestionably following the course of treatment alluded to, indicate one of two things: Either the existence of such, and its neutralization by the means adopted, or else an effect of the latter upon the local neurotrophic system, sufficient in kind and force to counteract the anabolic influences of the central and reflex nervous systems. The writer is of the opinion as before maintained, that the changes induced pro and con have their pivotal basis in a material impulse of ovarian origin, and that the improvements noted are the result of a chemical decomposition and prolonged alteration or restraint of the toxicophysiological principle normally evolved. The so-called alterative effect of the iodides when administered internally is generally recognized, even if not understood, and when administered in the manner described their effect is doubly marked in a local and somewhat different way. So marked indeed is it as to lead the writer

to infer that in this particular sphere their action is not only of the character which commonly maintains, but more affined, direct, and with a promptitude, certainty, and tenacity that argue the greater likelihood of a specific, neutralizing influence over some element that is a habitat, so to speak, of the immediate zone of disorder. An element that is more of a local irritant and stimulant of hyperplastic activity, with its concomitants of hyperesthesia, engorgement, inflammation, and exudation.

VENTRAL HERNIA: REPORT OF A CASE.

By Marie Rennotte, M.D., Sao Paulo, Estado de Sao Paulo, Brazil.

Maria do Vascimento, Portuguese, 31 years old, married, multipara, has had five children; the first one is still living, nine years old; at two other confinements the children died. She has had two abortions, and lately (January, 1900) another premature labor (seven months). Before this last confinement she came to me for an examination in order to know if the fœtus was living. Examination showed that it was; I noticed, however, that the abdomen was quite distended, not so much from an abundance of amniotic fluid (she was only five months gravid) as from flatus. I ordered pills containing each ext. nux vomica, 1 cent.; extr. gentian, 8 cent.; ext. podophyllin, ext. cascara sagrada, aa 3 cent.; directing that she take one of them two or three times daily according to necessity.

The woman, whom I had once treated when superintendent of the Lying-in Charity of Sao Paulo, never came back to me until this year, March 15th. She reported that my medicine had done her a great deal of good; that she had passed no less than *thirty* lumbrici! She said, however, she did not feel well since her confinement; that the size of her abdomen had not diminished after giving birth, and that the midwife who attended her told her that she did not understand the case and advised her to go to a physician. Not knowing that I had left the direction of the Maternity, she went there; but the gentleman who succeeded me, not being an operator, and the gynæcological department being closed, she could not be admitted. She came to me to know what was the matter with her. I found a ventral hernia extending from the xyphoid process to the insertion of the recti muscles in the pubic symphysis. I told her that medicines would not cure

her and that only an operation would relieve her of her troubles. Being a poor woman, she could not be operated upon except in a hospital. But where? Na Misericordia (the public hospital under the sisters of San José) she would not go to because she was sure that she would die there. Let me say here in parenthesis that in that poor hospital there are no trained nurses! She had no money to go to the English Hospital, so I managed to have some ladies in the town help me in paying her expenses and she went to the Samaritan Hospital on the 19th of March. I speak of all these particulars to show you how many difficulties one has to contend with that you, gentlemen of the land of Stars and Stripes, know nothing of. Fancy the public hospital of a city of 280,000 population having no trained nurses!

Upon entering, the patient was given a bath, light diet and evening pills of hydr. chlor. mitis, 5 cent.; sulph. precipit., 10 cent.; ext. opii, 5 mill. She took four, three-quarters of an hour apart; next day, the morning of the 20th, a dose of oleum ricini was given, with fluid diet during the day; next morning (21st), oleum ricini and a bath were given; on the 21st the operation was performed, after disinfection of the abdominal surface, physicians and instruments. The woman was put under chloroform by Dr. Lipo; the writer was assisted by Dr. Downing, an American graduate, but not authorized to practice because he had not passed his examinations here, and a foreigner cannot practice unless he is recognized by the faculties either from Rio de Janeiro or Bahia. I made the first incision at 9 o'clock A.M. The recti muscles were pushed to either side and were exceedingly atrophied, and the fasciæ stretched and very thin, so that a great deal of care and patience was necessary; otherwise an unnecessary cut into the peritonæum and intestines would have easily resulted. At 11 A.M. I made the first stitch, and I believe that in this case catgut was employed for the first time in Brazil for such a purpose. The operation went on satisfactorily, but the woman did not come out of the chloroform very well. Though I should have followed the rule in such cases if I had given opium pills, I gave a purgative instead to help elimination of the anæsthetic. Vomiting occurred during the night after the operation and two immense lumbrici were passed; temperature on the 22d at 4 A.M. was 102.2°; at 8, 103.1°, pulse 140. An enema of salt solution was given and brandy 3i every hour; at 12 o'clock her temperature was 102°, pulse 136. On the 23d at 4 A.M. her temperature was 103°, pulse 138. From that time a hypodermic injection of strychnia, $^1/_{30}$ of a grain, was given every four hours. At 8 A.M. her temperature fell to 99°, at midday, 98.1°, at 4 P.M

102.2°, pulse 144; at 12 midnight, temperature was 96.4°, pulse 140, and an enema of salt solution was given. As she had not slept any I tried tinct. opii, 10 drops, which she took three times during the day of 23d. On the 24th at 4 A.M. her temperature rose to 98°, pulse 140, her bowels had moved and she had passed long worms; at 8 A.M. temperature 99.4°, pulse 130; at midday 100.2°, pulse 120. At 4 P.M. another enema of salt solution was given; at 8 P.M. her temperature was 101.1°, pulse 116; she received brandy 3i every three hours; bowels moved freely; at midnight temperature was 100.4°, pulse 122.

On 25th at 4 A.M. her temperature was 101°, pulse 118; Rubinat was given at 5 A.M.; at 8 A.M., temperature 100°, pulse 116; at 12 midday, temperature, 102.1°, pulse 120; enema of salt solution was given at 2:30; at 4 P.M., temperature 102.2°, pulse 120; passed another worm; at 8 P.M., temperature 101.1°, pulse 120; at 12 midnight, temperature 101°, pulse 118. The hypodermics of strychnine were discontinued and I gave a few drops of nux vomica night and morning. On the 26th at 4 A.M. her temperature was 99.4°, pulse 120; at 8 A.M., her temperature 99.3°, pulse 108; at 12, temperature, 100°, pulse 116; at 4 P.M., temperature 102.1°, pulse 116. Rubinat was again administered, and at 8 P.M. temperature was 101°, pulse 116, and she passed two worms; at 12, temperature 100.2°, pulse 108; 27th, 4 A.M., temperature, 100°, pulse 108; at 8 A.M., temperature 99°, pulse 106; pills as on first evening; at 12, temperature 100°, pulse 106. At 3:30 P.M. she had rigor, and at 4 the temperature rose to 103.3°, with the onset of an erysipelas; the pulse increased from 106 to 112, and at 8 P.M. to 140; at 12 midnight, temperature 101.3°, pulse 146. Carbolic acid in gum camphor was applied.

The stitches, which until this time had shown no sign of irritation, suddenly separated and pus in enormous quantities made its way through the wound. The patient's bowels moved six times on the 28th, and on the 29th at 4 P.M. she vomited a worm. On the 30th her bowels were moving too frequently and tinct. opii was given. Vaginal douches were given daily as well as toilet and lavage of the wound; pus diminishing. At 8 P.M. patient vomited a worm. On the 31st patient had five movements of the bowels and wound was dressed three times a day, washing it with H_2O_2 and then with salt solution, the pus diminishing sensibly.

April 6th the patient broke into *an immense quantity of carbuncles* almost the size of a dollar, and on the 9th she passed a living worm.

During the interval to the 17th her temperature varied between 97° and 102°, with a pulse ranging from 102 to 114, when she developed bronchitis.

With the opening of the carbuncles on the 20th and 21st the temperature dropped and remained at or about normal. On the 29th patient got up.

May 1st the woman had no pus in the immense fistula which formed when the erysipelas declared itself. That attack, which by no means pleased me, was not, as I afterward learned, her first one; her husband, who is a litte more intelligent than his "analphabet" wife, told me that she had had an erysipelatous attack after her confinement. Now, what I was surprised at was the resistance of the catgut sutures, which were, so to speak, bathed in pus; moreover, being a nidus quite favorable for the development of cocci of any sort, how had she no peritonitis? For, in doing the operation, a slight slit was made in the peritonæum, which incision was closed with catgut stitches also.

The appearance of these multiple and enormous carbuncles or boils would perhaps have been taken by a Brazilian doctor for the buboes of the plague supposed to have been here; the fever she had I take for pyæmia. At the enormous quantity of living worms she either vomited or expelled per rectum I am not surprised; when Superintendent of the Lying-in Charity I had considerable experience with these parasites. Often four or five days after confinement the parturient's temperature would suddenly rise to 39° or 40°, sometimes even 41°. On giving calomel with sulphur and ext. opii, as mentioned heretofore, followed two hours after by a dose of castor oil, the temperature would drop to 37.5° or even to normal. In the evening the thermometer would again mark 38° or 38½°; other purge would give another fall of temperature; again, the day after, the intestinal disinfectant would be repeated, again reducing the temperature and often followed by the expulsion of lumbrici; if the purge did not expel them, giving an emetic would bring them up, the patient passing two or more by mouth. I have seen colleagues declare such cases to be puerperal fever; but puerperal fever does not come down to normal with purges and the presence of the parasites would prove that I was right. Now, why should my operative case, as well as my puerperal women, have so many worms? It is simple to me: they are the product of the alimentation of poor people (and others here, as well). Many well-to-do people, as well as the poor, live a great deal on farinaceous food. They eat much of what is called in Portuguese "Farinha de Mandioca"; the flies deposit ova on this sawdust-like materal, which is

mixed raw, either with the "feijao" or black beans, or with molasses; and ingested it produces these parasites. I also have noticed that the children that eat much of this simple granulated cane sugar present the same phenomena.

This case was instructive to me in these particular points: First, the resistance of catgut sutures; secondly, the prompt efficiency of carbolic acid in gum camphor in killing the staphylococci and inhibiting the progress of the infection; thirdly, the good results from free in-



jection of the fistula with normal salt solution followed by 1 per cent. carbolic acid solution. The H_2O_2, which I used for a week, did not do any better, and as it is exceedingly expensive here in Brazil, I was glad to be able to replace it with something a great deal cheaper and yet as effective.

I herewith present a photograph of the patient before operation. She is now like any other woman. For more than a month she has been selling milk on the street. She wears a belt to support her abdomen and prevent any accidental recurrence, as she does hard work. She has come to me several times and enjoys perfect health.

URETERO-INTESTINAL ANASTOMOSIS AND ITS PLACE IN PELVIC SURGERY.*

By Reuben Peterson, M.D., Chicago.

In this day of advanced and scientific surgery, it requires more than the mere description of a new surgical procedure to assure its thoughtful consideration by the experienced surgeon. The surgical world is slowing down a bit and is not as apt as formerly to be carried away by those who devise three times a day and at bedtime a new operation or a new technique for an old operation. The burden of proof is now laid heavily upon the advocate of the new procedure and he must show, either by clinical results or experimental work, good and sufficient reasons for the faith that is in him. Especially must those advocating such an intrinsically dangerous operation, as the permanent union of the urinary and digestive tracts show that these dangers can be overcome by perfection of technique, if they hope for the general adoption of their proposed methods of operating.

It so happens that most of the experimental work on uretero-intestinal anastomosis in this country has been performed in Chicago and by members of this society. Hence I have no hesitancy in stating wherein and why my conclusions differ from theirs. It is my hope that they in turn will criticize my views as frankly since oftentimes much more can be brought out by free discussion than by a written communication.

The urinary and digestive tracts below the pelvic brim may be united permanently in three ways:

1. The ureters severed from the bladder may be anastomosed with certain portions of the intestinal tract, preferably some segment of the large bowel.

2. The anastomosis may be accomplished by implanting in the intestine the vesical trigonum with its ureteral orifices.

3. The ureter-intestinal union may be established by the formation of a permanent communication between bladder and rectum in the male and between bladder, vagina and rectum in the female.

Where the last two methods of anastomosis are employed, it is evident that not only are the vesical ureteral orifices preserved, but the natural course of the ureters in the bladder wall remains unchanged.

* Read before the Chicago Gynæcological Society, June 15, 1900.

On the other hand, where the severed ureters are implanted in the bowel, new ureteral orifices must be formed. These facts must be kept in mind, since they will be found all important in determining the place of uretero-intestinal anastomosis.

1. Intestinal implantation of the severed ureters.

This is a procedure which would be extremely useful to the pelvic surgeon if it could be employed with safety. In primary or secondary malignant disease of the bladder, the entire organ could be removed and the ureters implanted within the colon. It could be employed for enlarging the field of the radical treatment of uterine cancer, which had extended into the broad ligaments. Uretero-uterine or uretero-vaginal fistulæ where, for any reason the ureter could not be anastomosed with the bladder, could be implanted in the bowel and the patient freed from a most distressing condition. Finally the indications for its employment could be still further extended to the cure of exstrophy of the bladder and to the relief of the distressing sequels of hypertrophied prostate. But can it be employed with safety?

Some two years ago a most interesting case of sarcoma of the bladder in a negress was referred to me for operation. Having under contemplation a total removal of the bladder in order to ascertain the best methods of disposing of the ureters, I began a series of experiments in dogs on bilateral ureteral implanation. These experiments were carried on at intervals for eighteen months and were reported in detail at the last meeting of the American Gynæcological Society. In addition to my own experiments I made an extensive study of the literature of uretero-intestinal anastomosis and the conclusions arrived at from this review were included in the article mentioned, which will shortly be published in the *Journal of the American Medical Association.*

From an experimental standpoint the operation of bilateral ureteral implantation is a dismal failure. The primary mortality is over 85 per cent. in 68 dogs subjected to this operation by different experimenters. My own results were but slightly better, since I was able to save but 5 dogs out of 28 operated upon. The animals died from acute peritonitis from a giving way of the stitches at the site of the anastomosis or from renal infection of an acute ascending type. There is absolutely no proof that a single dog who survived the operation escaped infection of the kidneys. Dr. Martin and I have been fortunate in having the benefit of Dr. Zeit's careful bacteriologic and microscopic work. This has shown infection in all cases whatever the technique employed. The animals surviving the operation died from an acute suppurative pyelonephritis

or from a pyemia from secondary infection. In a few cases the animal was able to overcome its infection with resulting contracted kidneys.

I fail to understand how any one can see any place whatever for the operation of bilateral ureteral implantation in human surgery, if his opinion be based upon experimental results—which may be summarized as follows:

1. The vast majority of the animals operated upon die from the operation itself, either from acute general peritonitis or an acute septic nephritis.

2. The animals surviving the operation usually die from an acute ascending pyelonephritis, or from pyæmia from secondary infection.

3. In a very few instances, they overcome the infection and survive with resulting contracted kidneys.

4. As one could expect when a small compressible tube like the ureter is implanted into a large muscular tube like the intestine contraction at the uretero-intestinal junction results, to be followed by dilatation of the ureter and hydronephrosis.

Those who argue for uretero-intestinal anastomosis in the human being are prone to brush aside the unfavorable results of their experimental work by arguments which a little consideration would have shown to be utterly valueless. For instance, Dr. Martin, in a recent article advocating removal of the bladder and uretero-intestinal implantation in order to extend the limits of the radical treatment of malignant disease of the pelvis, thinks that the upright position in man and the possibility of keeping the latter's rectum relatively clean will prove important factors in preventing infection. A septic cavity like the lower bowel can not be rendered clean by irrigations or the force of gravity. Do the best we can in these directions and myriads of bacteria remain, which could infect thousands of ureters and kidneys—if the former emptied into the intestine. The plea for flushing the kidneys by the employment of diuretics as a preventive of infection would prove of little avail in the presence of such active germs as inhabit the intestine. The endeavor to show that the ureters will take on rapidly increased resistance to infection by pointing out that many cases of exstrophy of the bladder survive at all ages, in spite of the contamination of the ureteral orifices, is unfortunate, since it has been shown that these unfortunate beings on the average only survive a little over 20 years. This in spite of the fact that the course of the ureters in the bladder wall remain intact and the ureteral orifices are not disturbed.

What about the improved technique by which so much was to be accomplished in the way of prevention of infection? The records of the

experimental work on uretero-intestinal anastomosis reveal many different kinds of operations to guard against infection from the mucous flap to the burying the ureters in the muscularis in order that the urine be milked down and germs prevented from going up. Yet the animals were all infected wherever the method was employed. Then having failed to prove what they started out to, the advocates of the operation are driven to the statement that while it seems to be a failure in animals, uretero-intestinal anastomosis will no doubt prove much more successful in man, because of the greater resistance of the human ureter to infection and in order to prove this they cite certain cases where the patient has survived with a single or both ureters implanted in the bowel. But do the recorded cases place the operation in a more favorable light?

I have been able to collect 33 cases of uretero-intestinal implantations with a primary mortality of 37 per cent. If to these be added the cases dying later of kidney infection the mortality would be increased to 52 per cent., not a promising mortality for these days of aseptic surgery. For obvious reasons the supreme test of ureteral-implantation must come when both ureters are implanted simultaneously, where the unilateral operation is performed, the implanted ureter and corresponding kidney may be entirely destroyed yet life be well sustained by the other kidney. If then we consider the bilateral ureteral implantations we find a primary mortality of 41 per cent. If to the cases dying from the immediate effects of the operation be added those succumbing subsequently to ascending pyelonephritis we are confronted with a total mortality of 59 per cent. Of the six cases surviving bilateral implantation, only one (Fowler's) has lived longer than a year. All the autopsies in the cases of uretero-intestinal implantations have shown well marked lesions of pyelonephritis and there is absolutely no more proof that the survivors have escaped infection than there was proof that in animals any kidney escaped infection after implantation of its ureter in the bowel.

The objection may be raised to these statistics that they include *all* the cases operated upon and that now the percentage of the recoveries would be greater. To this I would reply that I can not see that proportionately more cases are being saved to-day than formerly. Dr. Martin who has had an unusual experience in experimental ureteral surgery, in 1899 performed three bilateral implantation operations with three deaths and in only one case was death ascribed to shock. The failures are due to the intrinsic dangers of the operation, principally dangers of an ascending infection and no perfection of technique, I believe, will ever be able to eradicate these dangers.

A surgeon would be obliged to state the case about as follows to a patient upon whom he contemplated performing the operation: "The primary mortality from the operation itself is over 40 per cent. If you are one of the fortunate sixty no one can say whether you will live a few weeks and die from an ascending kidney infection or whether you will be able to overcome this infection. In the latter event it will be impossible to say how long your contracted kidneys will serve you, perhaps months, perhaps years. No matter how good the operative technique may be all these things may happen to you. Do you choose the operation or not?" I think the majority, the very large majority of wise patients would decline.

Any operative procedure, where improvement in technique can not hope to greatly lessen the mortality, where the outcome, primary and ultimate, is simply a matter of conjecture, is not and can never be justifiable and has no place in pelvic surgery.

Uretero-trigono-intestinal Anastomosis or Anastomosis of the Vesical Trigonum and Its Ureteral Orifices with the Intestine.

The distinctive feature of this operation is the preservation of the ureteral orifices. Over ten years ago Tuffier, discouraged by the bad experimental and clinical results of uretero-intestinal anastomosis urged that the verico-ureteral orifices be retained in order that ascending renal infection might not result from the implantation. A few years later Maydl reported a number of cases of exstrophy of the bladder cured by implantation of the vesical trigonum with the sigmoid flexure with no apparent renal infection resulting. Since the publication of his article different operators have reported cases treated according to his method, the primary mortality and the permanent results being remarkably favorable

I have collected from the literature 36 cases of uretero-trigono-intestinal anastomosis, a term I have ventured to suggest as more descriptive of the procedure than is "Maydl's operation."

There were 5 operative deaths out of the 36 cases or a mortality of only 14 per cent., a most remarkable showing considering the magnitude of the operation and that it includes the first cases operated upon. Two cases died four and fifteen months later of pyelonephritis. Including the two cases, the total mortality from the operation is 19 per cent. as compared with 59 per cent. when the implantation was made without the preservation of the ureteral orifices. Such mor-

tality figures cannot be explained by difference of skill on the part of the operators.

The sphincteric control after uretero-trigono-intestinal anastomosis was remarkably good in 29 out of the 36 cases. In fact, in only 1 case was it noted as poor. Nineteen cases are living and well at the end of one year; 10 at the end of two years; 7 at the end of three years; 4 at the end of four years, and 1 at the end of six, and 1 at the end of seven years. No cases of renal infection have been noted, although transitory pains in the lumbar regions have been recorded in 5 cases. The only other possible symptoms of renal disease noted was in two cases reported by Herczel where marked polyuria was reported at different times subsequent to the operation. My own opinion is that the kidneys where the vesical trigonum with its ureteral orifices is implanted in the bowel do not entirely escape ascending infection, but that this infection is so slow and so comparatively slight that the kidneys are able to recover with a minimum amount of resulting contraction.

In order to study the changes resulting from the operation under discussion, after many failures I finally succeeded in devising a technique by means of which I was able to save my animals. They were the first dogs, so far as I have been able to ascertain from a study of the literature, that have ever survived the bowel-implantation of the vesical trigonum. The results of the experiments were very interesting and showed that where the vesical mucosa about the ureteral orifices was left intact, renal infection did not take place for at least two months subsequent to the operation, at which time the animal was killed for the purposes of the article. When the mucosa was removed a pyelonephritis developed as quickly as it did in the cases where the ureters were implanted without the ureteral orifices.

The details of these experiments and my modification of Maydl's operation, which is much simplified and described so as to make the operation a most practical one, will appear in the paper mentioned above.

Uretero-trigono-intestinal anastomosis is particularly applicable to the cure of exstrophy of the bladder, although it may also be used wherever the conditions present allow of the removal of the vesical flap with its ureteral orifices. There is nothing to prevent implantation into the bowel of one-half the trigonum with one ureteral orifice, in case of localized vesical disease, the other ureter being disposed of in some other manner if its vesical ureteral opening be encroached upon by the disease. Personally I have no faith in the

extremely radical treatment of uterine cancer which has spread to the broad ligaments, believing that at this time the disease is beyond the reach of the surgeon's knife, but in case this be attempted where the bladder is uninvolved, intestinal implantation of the vesical flap would be the only rational method of disposing of the ureters. I believe then we may say that experimentally and clinically uretero-trigono-intestinal anastomosis has been proved to be a perfectly justifiable surgical procedure and as such has a limited place in pelvic surgery.

Uretero-intestinal Anastomosis by the Formation of Permanent Fistulæ connecting Bladder and Rectum.

This procedure has been made use of eleven times with varying degrees of success. It can hardly be said to have received a fair trial for about one-half of the operations were performed before the antiseptic era and the methods employed were rather crude. Keen reports a case operated upon twenty-two years previously, where a permanent fistula was formed between bladder, vagina, and rectum, with closure of the introitus. The patient at the time of the report was well and showed no signs of kidney infection. This freedom from infection or recovery from a small amount of infection is to be expected where the ureteral orifices have been allowed to remain intact. I have been unable to find a case where fæces passed from the intestine into the bladder and I am inclined to think that where the operation is properly performed this danger will be slight.

Frank's experimental work on vesico-rectal anastomosis is exceedingly interesting and bids fair to place the operation upon a sound scientific basis. He has shown that by means of his coupler the bladder and rectum can be safely and permanently anastomosed, and that the urine under these circumstances passes entirely by way of the anus.

Bacteriologic and microscopic examinations of ureters and kidneys of the animals surviving the operation for different periods show the organs comparatively free from ascending infection, although present in quite a few of the cases. Dr. A. E. Halstead has performed vesico-rectal anastomosis on a child 5 years of age, suffering from exstrophy of the bladder, and has shown the practicability of the procedure in the human being. Unfortunately the patient died of shock and the opportunity of settling some disputed questions regarding the operation was thereby lost.

It is a question in my mind whether the procedure can ever be successfully made use of in cases of purulent cystitis due to enlarged prostate. Here we have a remarkably changed mucosa and ureteral orifices which are far from normal and under these conditions the admittance into the bladder of such virulent micro-organisms as find their habitat in the intestine would appear to me a hazardous procedure and one likely to end in rapid and overwhelming renal infection.

103 State Street.

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TUBERCULOSIS AND THE TUBERCULIN TEST.

The Bulletin of the State Board of Live Stock Commissioners of Illinois regarding tuberculosis and the tuberculin test contains a careful record of the most recent and scientific methods of dealing with this disease in cattle and elaborate reports of the practical details involved in an attempt to bring the matter under State supervision and control. The work was begun as soon as the value of the tuberculin test was established but, as until recently there was no appropriation in Illinois for such purposes, it had to be confined to the dairies whose owners desired their cattle inspected and, if need were, condemned without compensation. In 1899 a small appropriation of $5000 was secured both for defraying the expenses of the tests and for paying damages for the animals that should be condemned, the damages to be "based upon the value of each animal as disclosed and determined by a post-mortem examination. The scope of the work was thus enlarged, though with so limited an appropriation it was still possible to do only "pioneer and educational work." What this latter has been the report shows.

The Board adopted a resolution embodying briefly the following rules: All cases of supposed tuberculosis reported to the Board were to be investigated and if sufficient clinical evidence should appear the entire herd to which the suspected animal or animals belonged was to be quar-

antined and subjected to the tuberculin test. On testing, any animal that gave a typical reaction, *i. e.*, one due in the veterinarian's opinion to tuberculin, of more than 2 degrees was to be isolated, slaughtered and examined post-mortem; while all animals that reacted between 1.5 and 2 degrees were to be isolated and retested. For the purpose of determining the value of the animals slaughtered and fixing the amount of compensation the cases were to be divided according to the post-mortem findings into six classes, the first to include those in which evidence of tuberculosis should be lacking, the second those presenting tuberculosis in its incipient stages and the next four those apparently affected for periods of one, two, three and more than three years respectively. For animals of the first class the owner should be entitled to their full appraised value; for animals of the other classes to 75, 50, 35. 25 and 15 per cent. respectively of such value. It was estimated that the average life of an animal affected with tuberculosis would be about four years and that the compensation for animals requiring to be slaughtered would in the average herd amount to about 50 per cent. of their health value.

In the practical application of these rules the first step is to agree with the owner of the herd as to a reasonable cash value for each animal, such value to serve according to the post-mortem findings in the case of animals slaughtered as a basis for the estimation of the remuneration the owner is to receive. The technique is as follows: The animals are tagged and numbered and on the first day the temperature of each is taken three times at two hour intervals. Between seven and eight P. M. of the same day each animal receives an injection of tuberculin from 2 to 2 ½ c.c., according to its size and weight. Ten or twelve hours after the injection the temperatures are again taken and continue to be taken at two hour intervals for three to five or more times. If no animal show a reaction after the temperatures have been taken three times the herd may be considered healthy. If there be reacting animals their temperatures may be taken several times more in order to ascertain whether the reaction be typical—that is, begin gradually, attaining its highest point from four to six hours after its commencement and gradually subsiding after the eighth or tenth hour. If the temperature begin with a certain degree of rise and be maintained uniformly without subsidence, through a number of two-hourly observations, the reaction is not considered typical and condemnation of the animal would not be warrantable. If there be a typical reaction of 2 degrees or more above the previously recorded highest normal temperature the animal is condemned, isolated and slaughtered. If the re-

action be between 1.5 and 2 degrees the animal is isolated and retested. If the degree of reaction is no criterion of the extent of the disease, incipient cases often giving a high rise of temperature and very advanced cases a moderate one. Every animal slaughtered is subjected to careful post-mortem examination and the carcasses if fit for food are sold, also the rendered product from condemned carcasses; if the proceeds thus obtained are less than the value of the animal as determined according to the rules, vouchers for the difference are issued to the owner; if in excess, he receives the total proceeds. Full statements of the cases, post-mortem findings, proceeds from the carcasses, etc., are issued to the owners and whenever tuberculosis is found in a herd the owner is required to disinfect his premises according to careful instructions.

From May 17, 1899, to November of that year, 3,655 animals were tested; of these 560 were condemned and 47 isolated and held for retest. Some of the herds and condemned animals belonged to State institutions. For the 415 remaining animals belonging to private owners, $3,385 were taken from the $5,000 fund to make up, with the proceeds from the carcasses, the compensation calculated according to the rules; which compensation averaged $17.32 per head or amounted *in toto* to 41 per cent. of the appraised value.

Some interesting cases are cited demonstrating the origin of infection in calves and yearlings of otherwise healthy herds that had been fed upon milk from other dairies; also cases in which the introduction of diseased cattle into previously healthy herds spread the infection among the other cattle. Other facts noted were that the disease was more prevalent in the oldest herds that had been kept together for years with little change and much in-breeding; also that the offspring of tubercular animals showed a much greater invasion of the disease than the parent, indicating the increased susceptibility of the former.

As to the reliability of the tuberculin test: 560 animals were condemned, three of whom did not react typically but were condemned on physical evidence borne out by the post-mortem. Of the remainder nine failed to show tubercular lesions on ordinary post-mortem examination without the use of the microscope; three of these nine, however, did not give typical reactions and would regularly have been subjected to a retest. As to the remainder it is not admitted that they were not tubercular, inasmuch as they might have been recently infected and some time must elapse between the inoculation of the animal with tuberculosis and the development of lesions visible to the eye; in one of these cases, in fact, the milk and cream both contained tubercle bacilli and pro-

duced tuberculosis when inoculated upon a guinea-pig. Whether tuberculin may fail to disclose the disease (except in very advanced cases where the error is discoverable) is not so amply proven; but the Board has made a number of negative post-mortems upon animals that had been tested without reaction and were slaughtered for other reasons. Moreover, the continued freedom from tuberculosis in herds from which it has been eliminated in accordance with the results of the test (in one case five years) is good presumptive evidence of its efficiency.

Whether the milk from tuberculous cows whose udders remain unaffected is dangerous is the subject of much discussion. While it is true that in many cases investigation of the milk has afforded negative results, there are now many records of other examinations in similar cases where the bacilli have been found. The Board desired some original investigations upon this subject and to this end had initiated a series of elaborate experiments upon the milks of 41 cows that had reacted to the test, been slaughtered and examined post-mortem, the findings of the latter showing in all cases healthy udders but (except in one instance) tubercular lesions elsewhere. In this one exception, already referred to, the milk showed tubercle bacilli and on being inoculated upon a guinea-pig produced tuberculosis. In all, tubercle bacilli were found in 15 out of the 41 specimens of milk and still another milk in which no bacilli could be demonstrated induced the disease in a guinea-pig. The conclusions drawn by the bacteriologists were:

First, prolonged searching of the concentrated milk from cows showing tuberculosis, but with sound udders, will reveal bacilli in about 35 per cent. of the cases.

Second, bacilli are found with about equal frequency in the sediment and in the cream.

Third, this milk when concentrated will produce tuberculosis in the guinea-pig in about 25 per cent. of the cases.

Fourth, not much dependence can be put on the physical appearance of the milk in cases in which the udder is not demonstrably involved.

Fifth, while the large number of cases in which pus-cells were found in the milk would indicate that there was beginning involvement of the udder, there is no question but that the search for lesions in these udders was far more careful than will ever be possible on the living cow and therefore the udder appearances cannot be accepted as a safe guide.

Sixth, the greater susceptibility of the guinea-pig, the concentration of the milk and the method of administration demand that when

we come to apply the results to the human subject allowance must be made for the different conditions.

The Board has adapted certain importation regulations which are briefly as follows: Any owner in another State desiring to sell dairy or breeding cattle in Illinois must have the same subjected to the tuberculin test in a manner stipulated by the State Board of Illinois and by a competent veterinarian recommended to and recognized by the Illinois Board. Such cattle as show no reaction exceeding 1.5 degrees rise from the highest preceding normal temperature may be shipped, after a certificate containing a full report of the results of the test shall have been made out by the veterinarian (with an affidavit from the owner that the cattle to be shipped are the same as those referred to in the certificate) and presented to the transportation company, a duplicate of the certificate being mailed by the veterinarian to the State Board. No transportation company shall accept any shipment of cattle unless accompanied by such certificate. In case, however, the shipper desire, he may apply to the State Board for permission to ship cattle into the State without previous tuberculin test, if he will agree to allow the cattle to be quarantined and tested on arrival at his own expense and waive all claim for such animals as shall be condemned and slaughtered in consequence. Such permission granted in regular form may be accepted by transportation companies in lieu of the regular certificate.

A somewhat detailed résumé of this report has been given because the subject is one of so great importance yet seems to have received so little adequate consideration. The question of compensation to the owner for animals condemned is not one that should stand in the way. It is not customary to compensate a man for his goods if they be seized because his business is an illegal one. Nor should we expect to compensate a man for poison that he might be selling, even innocently, as food. The milk of tuberculous cows is no less a poison because it is not always poisonous, because it sometimes fails to poison or because it is of slow action. We do not like our milk to contain boric acid or formaldehyde, and rightly so, but these things are innocuous compared with tubercle bacilli. It is true that dairymen are to some degree innocent offenders, also that the loss of condemned animals would be trying; but these animals would die early anyway, whereas, if they are removed and proper future precautions taken, the residue of the herd will remain healthy as well as all subsequent additions to it. The majority of dairymen would oppose such measures, compensation or no compensation, partly because they do not care, more because they do

not know and do not believe. It is better no doubt that a just compensation be accorded and it is an expense that can well be afforded. But the point is that the question should not stand or fall on that issue. In a matter of so vital importance individual interest cannot receive paramount consideration but the greatest good of the greatest number must still be sought.

When we consider how one animal either through milk or by association may in time infect an entire herd; when we remember that with each additional animal infected the disease is liable to be still further spread among the human race, especially among babies and children; now that it is proven in a goodly number of cases that the milk of a tuberculous cow may be infectious even though her udder be sound (one case would be enough, logically, to disprove the contrary statement) and that, even if the milk of such a cow be normal, there is no ready means of determining that fact nor whether such a fact be constant; when we have a means of diagnosticating the disease that is shown to be to a great degree if not absolutely reliable; when by the taking and maintaining of a few comparatively simple measures the disease in one entire species may be completely wiped out—is it not remarkable that little more than nothing is being done to achieve such a result? Should such a matter wait for each State (whose citizens need protection in that they are citizens of the nation) to pass the necessary laws and appropriations until by slow processes and after many years, if ever, something approximating united national action may obtain? Should not such a matter rather be under the consideration of a National Board, working through the State Boards, it is true, but with supreme authority, that so prompt, wide-reaching, uniform result may ensue?

Millions of dollars, nation-wise, for a war in some far away land—hundreds, State-wise and grudgingly, for protection at home, not against an enemy that can be fought with flags flying and long range guns but against one that must be met quietly, without noise and glory, yet is destroying thousands of our people, with only here and there a doctor doing what he may but scarcely one legislative hand raised effectively against it!

A. D. C.

REVIEW.

CANCER OF THE UTERUS.

Its Pathology, Symptomatology, Diagnosis and Treatment. Also the Pathology of Diseases of the Endometrium. By Thomas Stephen Cullen, M.B. (Toronto), Associate Professor of Gynæcology in the Johns Hopkins University. D. Appleton & Co., New York, Publishers.

The aim of the author in presenting this work has been "to give the family physician as clear an idea as possible of the early signs of Carcinoma, so that he may be always on his guard, and may not treat too lightly any suspicious indications that may be present." The improvement in the technique, rapidity and operative skill in this class of surgery has been so marked of recent years that it hardly seems possible to do more in that direction—the operations of Werder, Clark, Pryor and Polk seeming to be about as thorough and radical as it is possible to make them. Notwithstanding these facts, the mortality of the dread disease appears to be increasing with a rapidity that is simply appalling.

W. R. Williams in a recent paper stated that in England and Wales, the increase in the mortality from cancer had been rapidly growing, while Mann, in this country from carefully collected statistics, shows most conclusively that cancer as a disease is certainly on the increase. He also affirms that just in proportion as diagnostic methods are improved, and operations attempted *earlier,* just in that proportion do we get actual *cures* and save these patients from dying of the disease.

In Germany it is said that each year more women with uterine cancer come earlier for treatment. This is due to the efforts of Winter, Bäcker and others, in urging the medical profession to make earlier diagnoses with the microscope. All aids to diagnosis of this dread disease should be availed of, and as the physical signs and symptoms are slight and varying in the early stages, the microscope seems to be the most positive and reliable. As the author says, "even the skilled pathologist is sometimes in doubt as to the exact nature, benign or malignant, of a given scraping. Nevertheless, it is evident that a careful comparison of the clinical histories with the pathological findings in a large number of cases will undoubtedly allow him to speak with authority

in the majority of instances." The fatal neglect of so many of these cancer patients by the general profession is due, not so much to ignorance, but rather to carelessness, and *inexact* methods of diagnosis. So that this book is not only a valuable acquisition to the literature of this very important subject, but is also most timely in its appearance, and it is to be hoped that it will be appreciated by the profession, and they—the general practitioner to whom these cases usually first present themselves—may be aroused to a realization of the grave responsibility lying at their door, for the small progress made in the early diagnosis of uterine cancer and its successful treatment.

A relatively simple classification has been made—squamous-cell carcinoma of cervix, and adeno-carcinoma of cervix and body.

The first three chapters are devoted to the "Anatomy," and "The Removal and Examination of Uterine Tissues for Diagnostic Purposes."

Chapters IV. to VIII. take up the subject of squamous-cell carcinoma. This includes about fifty (50) full clinical histories of cases illustrating the various stages and conditions of the disease as seen by the author, together with their pathological, histological, autopy findings, etc., etc., as well as differential diagnosis, operative, palliative, and after-treatment. Adeno-carcinoma of the cervix and body are dealt with in the same manner, followed by chapters as "clincial phenomena, common to all varieties of carcinoma of the uterus," "Prognosis," "Etiology of Carcinoma," and "Inoculation experiments bearing upon the nature of carcinoma." The volume is profusely and beautifully illustrated with many colored plates, half-tones, and cuts, some having been borrowed from the recent work of Dr. Kelly on Gynæcology, while the others have been drawn by the same artists, and are fully up to the high standard set by that work.

The binding, paper and typographical work are also good.

E. P. M.

TRANSACTIONS OF THE CHICAGO GYNÆCOLOGICAL SOCIETY.

Stated Meeting, June 15, 1900.

The *President,* T. J. WATKINS, M.D., in the Chair.

Placenta Circumvallata.

Dr. JOSEPH B. DE LEE: This specimen is a typical example of placenta circumvallata. The history of the case is likewise one of intense interest. The placenta comes from a woman, 24 years of age, American by birth, but who is living in British Columbia. She had three labors before this one, in the course of four years. All of the children were still-born. The first was a single birth, the child was seven months, but came as a still-birth. The second was twins, which were still-born and macerated, at the sixth month. The third was a still-birth at the sixth month, not quite seven, and in all she had more or less trouble with the puerperium. In one of them she had milk-leg, and was laid up for six weeks. She has been married four years, and during that time has had an ovariotomy and extirpation of the tube on the left side for inflammatory disease. No physician has ever told her the cause of these still-births, and the children were not examined to find this out. She came to Chicago for the purpose of ascertaining the cause of the still-births, and, if possible, to get a living child. I examined her a day or two after her arrival. She presented the ordinary signs of pregnancy at about the fifth month. There were absolutely no signs of syphilis on her. A careful examination was made, and questions asked of the husband, and, as far as she knew, there was no history of syphilis. The kidneys were absolutely normal. There was no œdemas, and no symptoms referable to kidney insufficiency. An ocular examination was not made because there was no indication for it. The cause of the still-births depended upon some condition of the uterus which we could not diagnose when she was pregnant. We concluded that there was only one thing we could cure in pregnancy, if it was present, and that was a hidden syphilitic taint. Going on that suspicion, the woman was put upon bichloride of mercury, one-forty-eighth of grain, repeated three times a a day, and

reduced gradually to a thirty-second. The case was handed to Dr. Harpole to watch and he called me last Saturday, saying that the woman had had a hæmorrhage on Friday night. This was unexpected. Examination showed that the cervix admitted one finger, and the edge of the placenta could be felt. The woman was removed to the Chicago Lying-in Hospital and put absolutely at rest. There were no labor pains during her removal to the hospital, the bleeding ceased. We waited twenty-four hours after admission, when she began to bleed again and passed a clot, and we concluded to interrupt pregnancy. The patient was put on a table and a large Carl Braun colpeurynter was inserted into the uterus, filled with twelve ounces of sterilized water, and traction applied by means of the hand. The assistant was told to hold the colpeurynter and to apply traction of about one to one and one-half pounds. This was about nine o'clock at night. Pains came on in about twenty minutes, and the physician remained until half-past four in the morning, when the colpeurynter was expelled through the cervix and came into the vagina. The patient was then put on the table, the colpeurynter drawn out from the vulva, and the hand inserted into the uterus. The placenta was found freed from the uterine wall, and the child's head pushed off to the side. The child was immediately delivered by version and extraction, but was asphyxiated when born, coming around under the usual measures. It was put in an incubator, is thriving, and has gained three-quarters of a pound. I forgot to mention that the woman was seven and a half months' pregnant. Immediately after the baby was expelled a large quantity of blood escaped, so that the placenta was extracted without any delay by means of the hand. In doing so the placenta was somewhat torn, being adherent by that part which had not become loosened when I did version. The uterus contracted properly. The hæmorrhage came from the lower uterine segment. We could not determine that there was any deep laceration, so the utero-vaginal tract was tamponed tightly. The hæmorrhage ceased. The pulse, which was about 100, went up to 120, but came down in an hour to 110. Puerperium normal, involution rapid, no fœtid discharge, no tenderness, etc.

On examining the placenta you will notice that it presents a very typical appearance of a placenta circumvallata. The membranes occupy possibly one-half the extent of surface of the placenta. There is a ring of decidua where the chorion leve is reflected off from the chorion frondosum. It looks as if the placental tissue had grown out underneath the membranes in a horizontal plane. You will notice a thick layer of decidua, which is entirely separated from the mem-

branes, and was evidently stripped off from the uterus. It is nearly one-eighth of an inch thick, showing an immense hypertrophy of the uterine mucous membrane. There are shreds of decidua which can be stripped off. You can see fenestra which show the openings of the glands of the mucous membrane in the decidua. Furthermore, the placenta shows very well a ring which represents the original edge of the closing plate of Winkler, or, as it is sometimes called, Waldeyer's ring. It ought to be called Hunter's ring, because he described it several centuries ago. The placenta has grown out underneath the ring and has grown into the decidua vera, not into the reflexa, as it can be seen, the reflexa is lifted up with the chorion leve.

The causation of placenta circumvallata is variously given. One explanation is that the placenta grows in the corner of the uterus, and as a result acquires a circular ring and the placental tissue grows out alongside of it. Another theory is that the uterus is larger at the seventh or eighth month—owing to hydramnion it acquires that size, and then later, when the fluid is absorbed, a diminution of the placental site is produced. I do not think either one of these causes or theories is tenable for all cases. It is certainly not for this case, because here the placenta grew in the lower portion of the uterus. Another explanation is that it is due to endometritis; that the placenta at the third or fourth month becomes more than usually adherent, so that in the subsequent growth of it the ring does not expand sufficiently for the needs of the placental circulation, and in order to obtain a sufficient extent of placental surface the chorionic tree grows out underneath the ring. This strikes me as a plausible explanation, and the one which I think the majority of obstetricians adopt. Another explanation is that the placenta develops in the reflexa. Here would be the chorion leve and against it the reflexa [illustrating], and as a result of some cause the chorion leve does not atrophy at the third month, but the villi continue to grow and we have part of the placenta in the reflexa.

In this connection the causes of placenta prævia may be mentioned. Placenta prævia may be due primarily to a low insertion of the placenta in the lower uterine segment; second, to inflammatory processes which injure the growth of the placenta in certain directions, so that it develops in the reflexa. Later, as pregnancy goes on, the reflexa comes to lie over the internal os. The connection between the causes of placenta prævia and the causes of placenta circumvallata is such that clinically we find a large number of placenta prævia cases presenting the condition of placenta circumvallata. In the next room to where

this patient lay in another with placenta prævia. She likewise had a placenta circumvallata, but it was not as marked in her case as in this. She went on to term, and was delivered spontaneously.

Of twenty cases of placenta prævia, Bayer found that eight had placenta circumvallata. [Here Dr. De Lee demonstrated the more interesting points in the specimen exhibited.]

My idea of this case is that this woman has an endometritis, and she probably had it before she was married, or it came on after marriage, and as a result she had infection of the tube which necessitated its removal. Again, as the result of the endometritis the previous children died and were expelled, or as the result of the endometritis again, pregnancy took place lower down in the uterine segment, the placenta developed normally up to the third month, when the ring of Waldeyer became abnormally adherent to the lower uterine segment. Owing to the necessity for a larger placental area, the placenta grew from out underneath the ring. From a pathological standpoint, this placenta is interesting, in that it throws light upon the formation of placenta prævia.

Discussion.

Dr. Charles E. Paddock: I may have misunderstood Dr. De Lee, but he conveyed the impression that in the majority of cases of placenta prævia we find this condition of placenta circumvallata.

Dr. De Lee: I believe I said in about forty per cent. of the cases of placenta prævia this condition is found.

Dr. Paddock (resuming): I have had quite a number of cases of placenta prævia, but have failed to find placenta circumvallata, and if these cases are so frequent as the doctor says, it is news to me.

I regret that I was not here in time to hear the doctor present the case. In regard to his treatment of post-partum hæmorrhage, I believe he said he packed the uterus, in preference to using hot water. I would like to ask him why he packed the uterus? In all of my cases of labor attended with post-partum hæmorrhage, I use hot water at 120°, and have not been called upon yet to pack the uterus in a case of post-partum hæmorrhage. There are cases perhaps where this might be advisable, but I would like to know whether it is the routine practice of Dr. De Lee to pack the uterus in these cases instead of using hot water.

Dr. Gustav Kolischer: I wish to corroborate the statements of Dr. De Lee, namely, that in cases of placenta prævia placenta circumvallata is a comparatively frequent finding. In so far as the treatment is concerned, I would like to say a few words with reference to post-

partum hæmorrhage. If a physician in a case of placenta prævia, where there is a real past-partum hæmorrhage, flushes the uterus with hot water, he is very likely to lose his patient. The only reliable method of stopping post-partum hæmorrhage in a case of placenta prævia is to pack the uterus. There is no doubt about that. By trying different methods to control a post-partum hæmorrhage we may lose our patient. A patient who has a placenta prævia loses so much blood, that we cannot afford to have her lose any more by experiments. There is but one opinion among the leaders in obstetrics with reference to a reliable method for controlling a post-partum hæmorrhage, and that is to pack the uterus. I do not think it is possible to stop a post-partum hæmorrhage by the injection of hot water in a case of placenta prævia. The woman bleeds so rapidly in these cases that if the uterus is not packed promptly she may die inside of a few minutes. The uterus should be packed tightly. It is impossible to control these hæmorrhages by means of irrigation with hot water.

There is only one point with which I disagree with Dr. De Lee in the treatment of this class of cases, and that is in the method of using a colpeurynter. The best way is to attach a weight to the colpeurynter, for in this way one is able to maintain a uniform pull on the colpeurynter for a considerable length of time. Sometimes the obstetrician may pull too much, and consequently there is a hæmorrhage on top of the colpeurynter. In the same way, when there is relaxation, there is a hæmorrhage, and one of the best methods is to dilate the cervix gently by attaching a weight to the colpeurynter.

Dr. LESTER E. FRANKENTHAL: I do not quite agree with either Dr. De Lee or Dr. Kolischer. I do not know how many cases of placenta prævia I have had up to the present time, but in all cases where I have had hæmorrhage not sufficient to indicate immediate delivery, I have by detaching portions of the placenta been able to prolong pregnancy for a week or two or even six weeks. In one case, where I did so several times, pregnancy was prolonged for more than six weeks, the child brought to vability and subsequently partially raised in an incubator. But whenever I want to deliver in a case of placenta prævia, and where a good deal is dependent upon the life of the child, especially if the mother be a multipara, I always make rapid dilatation by the Maurer method, and I do not, for instance, begin, as I believe the doctor did, at ten and quit at four in the morning, but make rapid dilatation which can be done in from thirty to sixty minutes. The two chief objections to rapid dilatation is first, injury to the soft parts. I am positive that this can be avoided. Second, air embolus, which would apply as well to a slow,

as to a rapid method of dilatation. I am firmly convinced of one thing, and that is a child's life will be more frequently saved by rapid than by slow dilatation. That is proved by Dr. De Lee's case. He tells us that the greater part of the placenta became detached, and it is a wonder the child was alive when he did version. In many of these cases the colpeurynter is passed in and a part of the placenta is turned upward in the uterine cavity. It is not at all compressed by the colpeurynter, and hæmorrhage from that portion of the placenta it not checked by the colpeurynter, but it continues inside of the uterus. Cases of this kind have been published. In these cases, where there is an indication to deliver, I believe that the mother will not be harmed by the rapid method, and we will certainly save more children.

I heartily endorse what the doctor has said about placenta circumvallata in connection with placenta prævia, and in a case of that kind, or in a case of placenta prævia, I would not stop to use hot-water douches for the purpose of checking a severe post-partum hæmorrhage, but would pack the uterus every time.

Dr. FRANK A. STAHL: Dr. De Lee is to be congratulated on the pleasant outcome of his case in saving the child. It has always seemed to me that where it is a question of saving the life of the child, it is safer to confide in rapid dilatation by means of the fingers. In the case under discussion a slight delay of but a few more moments would have robbed the case of all its glory, namely, saving the child's life. Personally, I prefer where possible rapid digital dilatation. By this method, and especially with chloroform, we can open the cervix and resort to turning, often in a moment or two. If there is a concealed hæmorrhage, the child may be lost by the delay in a longer dilatation. In primiparas and multiparas, with eclampsia even, it is a pleasure to see what can be accomplished with the finger and half hand in the cervix towards rapid dilatation, turning the child, and saving often both; whereas, of waiting for other slower dilatation, the child is lost and the serious effect on the mother continued.

With reference to the control of post-partum hæmorrhage. I have never yet packed the uterus, whether the case be complicate, an abortion, premature labor, or labor at full term. I have had a few of these cases, and yet I would like to meet with one of those severe cases of post-partum hæmorrhage, should unfortunately one arise, such as the gentlemen say they find great difficulty in controlling, and that necessitates packing as a *dernier ressort.* There is nothing difficult in packing the uterus, so the question narrows itself to one of expediency. So long as the uterus continues subretracted or enlarged,

there is danger from oozing, if nothing more serious; packing keeps up this danger, for the pack acts like the retention material, in tending to retard rather than to emphasize uterine retraction, the best controller of uterine hæmorrhage. It is possible that the cases I have had have been unlike theirs, or what is more likely, they were controlled before going on to such serious expressions, and yet as a type of a serious post-partum hæmorrhage the following case might be mentioned. So far as concerns the merits of a critical case of post-partum hæmorrhage, it was ideal. I encountered the case in the outdoor service of the Frauen Klinic in Munich. It was in a diabetic woman, in her twentieth or twenty-second birth, with a very large fœtus, which I turned. Noticing a severe hæmorrhage immediately after I had extracted the fœtus, without any further loss of time I expressed, by means of a Credé, the placenta. The cervix was torn, but tear did not extend further. The hæmorrhage not ceasing, I resorted to a cold-water and vinegar solution of about equal parts as a douche. The hæmorrhage ceased some, but the solution was not strong enough in action to overcome that peculiar hissing sound which indicates a hæmorrhage from an artery of the size of the cervical, a sound which is peculiarly grating under these circumstances. Reaching up with my hand, I received the several tongues of the torn cervix between my fingers, and drew the uterus down so as to be able to encircle the cervix by means of several deep stitches. In drawing downwards I noticed care had to be exercised to prevent the tissues from tearing further because of the traction; the tissues seemed to be friable. The cervical artery stitched, all other hæmorrhage quickly ceased when again using the vinegar and water irrigation. In connection with post-partum hæmorrhage this is the only case where I have found it necessary to augment the vinegar and cold-water irrigation method with stitching. The suggestion of using vinegar for hæmorrhages belongs to Professor Penrose.

In closing, I would mention that I was pleased to hear Dr. De Lee's remarks that he does not hesitate where necessary to introduce his hand into the uterus for the purpose of removing the placenta. Several years ago the doctor and others were shocked to hear that I did not hesitate to introduce my fingers into the uterus for the purpose of removing the placenta or other retention.

Dr. O. B. Will of Peoria: I do not intend to discuss this subject any further than to say that I am actually dumbfounded to hear what has been said regarding the treatment of post-partum hæmorrhage. Over thirty years ago a student in my class lost his position in his

examination by determining in the presence of the examiner to do the very thing here and now advocated, and I have always stood in horror of doing anything of the sort, and I cannot now understand what is to be gained by tamponing or packing the uterus, which means dilating it. The moment the gauze is removed the hæmorrhage will continue; the uterus is in a dilatable condition, and I do not understand the object under those circumstances in refilling it ever so full with something, whatever it may be. It has been my practice to use measures to *contract* the uterus, to compress it from the exterior, to use ergot and cold applications. I would like to have the philosophy of this treatment by dilatation. It is the first time I have ever heard it advanced, and I would like to know something more definite regarding the theory of its employment and action.

Dr. GUSTAV KOLISCHER: There are some points in this discussion that have been brought forth which I think ought not to pass uncontradicted. Dr. Stahl has recommended dilatation of the cervix by means of the fingers in cases of placenta prævia where we try to save the child. I cannot see the necessity of dilating the cervix with the fingers. So far as I know, in Germany, in most cases of placenta prævia, the obstetrician is almost sure to lacerate the cervix if he resorts to dilatation of it by means of the fingers, and many women die in consequence of the practice of such a method. The circular veins about the uterus in placenta prævia are so large and the walls are so thin that the obstetrician is very apt to lacerate them. The woman is liable to bleed to death into her parametric tissue. Dilatation of the cervix by the fingers, therefore, is unsurgical and unscientific. We have other means of dilating the cervix in a uniform way. For instance, we have the use of Hegar's colpeurynter, or we can pack the vagina around the cervix, and in this way secure the necessary dilatation inside of half an hour. Such a man as Carl Braun, with an experience of a hundred and fifty thousand confinements, admitted that he had lost a number of cases of placenta prævia before he developed his method. Again, such a man as Winckel, who has had a vast experience in obstetrics, and Schauta, who has had sixty thousand cases of confinements, say that they have lost cases of placenta prævia, and the latter says the reason why he does not lose more is because he knows how to treat them by dilatation by means of the colpeurynter, and packing the uterus in each case of placenta prævia where there is the slightest post-partum hæmorrhage. The experience of such men should have considerable weight in an obstetrical way.

Dr. DE LEE (closing the discussion): So many points have been

brought out that I doubt very much whether I can answer them in their order. In reference to the remarks of Dr. Paddock as to the percentage of cases of placenta circumvallata, I did not give any statistics of my own cases. I mentioned the statistics of Dr. Bayer, who had found that 40 per cent. of the cases of placenta prævia were complicated by placenta circumvallata; in other words, Dr. Bayer reports 20 cases of placenta prævia in which there were 8 of placenta circumvallata.

With reference to packing the uterus for the control of hæmorrhage and the non-use of the douche, this woman was given a hot douche, but not as a means of stimulating the uterus to contract because the uterine body did contract. The hæmorrhage came from the lower uterine segment. It is impossible in a case of placenta prævia to avoid some injury to the cervix, either superficial or deep. It has been absolutely impossible for me to dilate the cervix in a few minutes by means of my fingers. I have never seen a cervix yet but what would tear in the process of dilatation, whether pregnant or non-pregnant.

Dr. Will wishes to know the philosophy of packing the uterus. It does seem unphysiological. The old teaching was to empty the uterus so that it could contract. Dr. Will will undoubtedly remember some case where he has expressed clots from the uterus, when it would fill up again with clots. He would express these clots a second and a third time, until the patient became seriously anæmic. If he keeps on expressing clots, he would kill the woman by so doing, because these clots are blood, just as important as a stream of it. If he would let them alone he would find the uterus would contract on them and the hæmorrhage would stop. Packing the uterus stimulates it to contract upon the packing. Fatal hæmorrhage from atony of the uterus is rare. Hæmorrhages, which come from atony of the lower uterine segment, cannot be reached by douching or vinegar, as Dr. Stahl recommends, or any of the astringents, except the iron preparations, which are dangerous. Packing is the successful treatment for atony of the lower uterine segment. I am speaking now of packing the utero-vaginal tract. Two cases of hæmorrhage from the lower uterine segment treated by hot douching have been reported by Maygrier.

Dr. Kolischer spoke about the use of a weight attached to the colpeurynter instead of the hand. There is nothing in my mind so serviceable as the hand, because it is intelligent.

In answer to Dr. Frankenthal. There was no necessity for imme-

diate delivery of the child. If we attempt immediate delivery with a cervix that will only admit one finger at the start, we would lacerate the cervix. Schroeder warns against hasty delivery in cases of placenta prævia.

With reference to Dr. Frankenthal's statement in regard to separating the placenta at intervals of two to six weeks during later pregnancy, in order to tide the patient along till term, I may say there is always a personal element which enters into the treatment of every case.

The late Dr. Jaggard, whom many of you remember, laid it down as one of the principles in the treatment of placenta prævia that there is no expectant plan of treatment for it. I believe that unless this woman had decided to go to the hospital and lie flat on her back in bed, the indication would have been imperative to empty the uterus as soon as the diagnosis was made. I would not undertake the risk that Dr. Frankenthal did of separating a portion of the placenta every few weeks, and waiting till term, because the patient might have had a profuse hæmorrhage, which in a few minutes would cause death.

Some of the remarks of Dr. Stahl were bizarre. It is hard to understand how the doctor in the case he mentioned controlled the hæmorrhage from the cervical artery with vinegar. I do not see how a hæmorrhage from the cervical artery can be stopped by the method referred to. Many obstetricians have tried vinegar for the control of hæmorrhage from atonia uteri, and they claim to have been very successful. Dr. Stahl says he has never met with a severe case of post-partum hæmorrhage that he could not readily control. I will say to him, that he will encounter such a case some day.

Lastly, Dr. Will mentioned the infrequency of post-partum hæmorrhage. I do not believe death from post-partum hæmorrhage is rare. In Germany, it is said, a woman dies of this accident every day.

Some Local Nutritive Influences in the Pelvic Disorders of Women.

By O. B. Will, M.D., of Peoria.

(See page 220.)

Uretero-intestinal Anastomosis and Its Place in Pelvic Surgery.

By Reuben Peterson, M.D.

(See page 233.)

Discussion.

Dr. Albert Goldspohn: The substantial facts that have been mentioned by Dr. Peterson in regard to the inability to transplant the

ureters into the intestinal canal directly, without a portion of the surrounding bladder wall or trigonum, have been well known for a number of years. At any rate, we have the word of Glück, Tuffier, Smith, Zeller, Bardenheuer, and others, which the literature has afforded us for a number of years, and knowing this I expressed some surprise to Dr. Peterson about a year ago, and intimated that the labor thus bestowed is likely to be labor lost. I am sorry to say that his conclusions rather confirm that prediction. I had hoped I would be mistaken, but I am not so far in regard to all operators with the possible exception of Dr. F. H. Martin, and Leon Krynski, who made a very brief statement in regard to his work on dogs in the year of 1895, published in the *Centralblatt f. Chirurgie* for January 25, 1896. At this time an assistant in a Russian clinic, Dr. Leon Krynski, made experiments along this line, and devised a method for implanting the ureters into the rectum which embodied the principles that Dr. F. H. Martin has recently carried out, and it seems to me as not so likely to result in stenosis of the ureter at the point of its insertion into the rectum as is Dr. Martin's method or technique. That surgeon made an incision, not simply through the peritonæum as Dr. Martin does, but through the peritonæum and the muscularis, and exposed the unbroken mucous membrane of the bowel. He made a triangular flap, the long side of the triangle running parallel with the axis of the bowel, and the shortest side of the triangle transversely, the longest side being about three centimeters in length. The flap of serous and muscular cots was turned over on the line of the hypotenuse. He then made a small opening through the mucous membrane, attached the orifices of each ureter by means of four interrupted sutures, uniting the mucous membrane of the ureter with the mucous membrane of the bowel, then simply turned the flap back over the ureter and sewed its edges down. Only two of these stitches caught the wall of the ureter. But it was attached to the peritonæal coat of the bowel a short distance before passing under the flap. With this technique, which he had practised upon quite a number of dogs, he did not say how many, he had not met any case of ascending renal infection. He does not give other details, nor does he mention how many fatal cases he had.

In regard to the technique which Dr. Martin has adopted, I very much fear stricture and the development of hydronephrosis, especially after such results as were experienced by a Frenchman, who operated on twenty-four dogs. He sewed both ureters into the rectum in ten of them. Of this number, two died of peritonitis, six died from peri-

tonitis and infection of the urinary tract, and two died of uræmia. He implanted one ureter into the bowel in fourteen dogs, all of which died promptly, with the exception of one, and hydronephrosis developed in quite a number of them.

This same work was gone over by a Russian named Galabin, who conducted experiments on nine dogs, implanting both ureters into the rectum in five of them. Three of these died of peritonitis, two of uræmia. He implanted one ureter into the rectum of four dogs, three of which died within a few days, and one lived a month, when the autopsy showed a normal condition. So of these several series of experiments there is really only one instance where a dog has lived one month, and the parts showed a normal condition.

As far as the merit of this experimental work is concerned for carcinoma, I see very little practical use for it. To enlarge the field of indications for radical operation it will have very little application because the extensions of carcinoma of the uterus are not so frequently into the larger portions of the bladder as they are into the broad ligaments and the glands lying in the posterior portion of the sacral cavity. The instances in which carcinoma becomes inoperable are far greater from extension to this region than into the bladder, and if a portion of the bladder is involved, it can be resected, and the gap sewed up, which I have done in several instances. Therefore, I still look at this experimental operative work as dubious, and I am sorry that Dr. Peterson has not a more favorable report to offer us regarding these operations.

Dr. GUSTAV KOLISCHER: I do not think Dr. Peterson's paper should pass without a word or two being said in recognition of its value. We do not have many papers presented to us so full of scientific research and exact figures as this one. He does not come before us with simply his personal opinions, but gives us the details of his experiments and results and the conclusions at which he has arrived. The transplantation of the ureters into the intestine is of great importance to modern surgery. We have not only to deal with this work with the uterine muscles which involve the bladder, but frequently we have to deal with cases where, in a healthy individual, it is necessary to find a new receptacle for the urine. One of the greatest merits of the work of Dr. Peterson in this respect is that he has proven by experiments on dogs that the so-called demonstrations of immediate transplantation of the ureters into the intestines are erroneous. This is very important because quite frequently some one appears before a society and shows a dog or a patient that is half-dying from an opera-

tion of this kind. He simply shows the case as an example for his method of operating. I have seen a great many of these demonstrations at the Chicago Medical Society, and the methods that are advocated are questionable as far as their usefulness is concerned. The experimental work of Dr. Peterson convinces us that some of the methods that have been advocated are of doubtful utility.

So far as the method of Dr. Martin is concerned, it should not be taken seriously, because the specimen he has shown to us presents evidences of pyelitis. Dr. Peterson, furthermore, has given us a plausible explanation for some of the so-called successes which have been nothing less than cases of contracted kidney. Some of the observations of Dr. Peterson do not agree with the results of other workers in this line on human beings, because Maydl reports two cases, and Ewald one case, where they excised the mucous membrane to avoid infection from disease of the mucous membrane, and these cases are living, it now being two years and a half since these operations were done. These experiments are interesting from a physiological standpoint, because they show that the epithelial lining of the mucous membrane has something to do with the action of the ureters, and I think the theory which I advanced some time ago, although I cannot prove it, is at least possible. The best protection for the kidneys against infection is that the ureters normally contract and are flushed by a sudden flow of urine. If this action of the ureters becomes stopped for some reason or other, the kidney becomes infected because there is a continuous stream of urine coming from the kidney pelvis to the intestine, so that it is possible for infection to occur.

In regard to the connection of the bladder with the rectum, the work of Dr. Martin does not prove anything because we have to deal with different conditions in animals. We do not intend to establish a fistula between the bladder and rectum, but this communication was rather an unfortunate accident and trouble arose because the urine did not pass through the rectum, but the fæces passed into the bladder.

Again, I wish to congratulate Dr. Peterson on his excellent work and consider his paper one of the best we have had for a long time.

Dr. JOHN A. LYONS: I have listened to Dr. Peterson's paper with a good deal of interest, and his modification of the Maydl operation is one that we can safely commend. I believe it or the Maydl is the ideal operation for the purpose of preventing infection of the kidneys with fæcal or septic matter.

I have had the pleasure of seeing Dr. Martin do some of his opera-

tions for uretero-rectal anastomosis, and to observe the results upon dogs. The operation, as he does it, is a difficult one—one that requires a good deal of mechanical and technical skill, and one that cannot be done by every surgeon without direct experimental work. However, his operation is intended for such cases as contraindicate the Timothy Holmes, the Frank, the Maydl, or Peterson operation, and that is in those cases where the cancer has extended above the trigone of the bladder, or where it has involved the uterus, the vagina, the bladder, the trigone, and the lower portion of the ureters themselves. For these desperate necrotic and septic cases Dr. Martin intended his operation. I have had two such cases myself in which, I am sure, neither the Maydl nor the Peterson operation would have succeeded. Neither do I believe Frank's operation, by which with his coupler he connects the bladder with the rectum, would have been indicated. Dr. Martin has therefore aimed to overcome these desperate cases of cancer by dissecting the ureters out of the pelvic wall, tying them off above the zone of disease, anastomosing them into and parallel with the long axis of the rectum. Of course, it is almost impossible to avoid some kidney infection because we have by compulsion done away with the valves which prevent the ascent of fæcal or infective matter, yet I am quite certain that this experimental work is not love's labor lost; or should it be stopped, because of Dr. Peterson's conclusions. It is not many years since that intestinal anastomosis was in almost as bad a condition as uretero-intestinal anastomosis is to-day, but by the perseverance and labors of such men as Senn, Frank, Murphy, Van Hook, Connell, Ferguson, and others, intestinal anastomosis to-day has been brought to a very fair state of progress. In the Van Hook class, where the Lembert suture is used, over 75 per cent. of successful work is obtained, and the Connell method of suturing, I think, will give still better results, for it is easy learned, and can be done quicker. I believe we will secure better results in the future from these operations than we have had in the past, because of so much persistent experimental work, and I am certain also that there are cases of cancer which can be materially relieved, if not cured, by the method of Dr. Martin, and where other methods of intestinal anastomosis could not possibly succeed. For, as I have said, it is only in the very desperate cases that Dr. Martin suggests this operation, and if the surgeon can in some of these cases prolong life for even three months he will have done a great service to such patients and their relatives. One of the patients I referred to would have given anything to have undergone an operation and to have gotten rid of the great suf-

fering which she had, for even a short period of time. It was one of those cases, most surgeons have had, where the patients pray for speedy death when informed of the hopelessness of their case.

Dr. F. GREGORY CONNELL: During the past year I have had occasion to look up the literature on exstrophy of the bladder in connection with some experimental work on the implantation of the ureters into the rectum, and have found that the methods of radical treatment may be subdivided into:

1. Lateral anastomosis, between ureter and intestinal tract.

2. Section of ureter, with implantation into bowel, by means of (*a*) mechanical appliance; (*b*) suture.

3. Implantation of ureter into bowel, in a manner imitating the normal ureteral opening into bladder.

4. Implantation of trigonum.

5. Vesico-rectal anastomosis.

6. Miscellaneous, such as (*a*) vesico-vagino-rectal fistula, with secondary closure of vagina; (*b*) formation of artificial anus, dividing intestine at the sigmoid; then inserting ureters into the excluded rectum; (*c*) formation of artificial bladder out of a loop of small intestine.

During this time I have repeated some of these methods upon animals in an effort to find out, if possible, which was the best method of uniting the ureter and bowel. I did not succeed.

In the experimental work, death of the dog resulted in all cases where both ureters were transplanted into the intestine. From available literature, the mortality rate in dogs was found to be extremely high.

Of the Maydl method, which meets with such marked success in the human being, eleven cases in dogs were reported, all of which ended fatally. I believe Dr. Peterson is the first to save a dog after performing the Maydl operation or a close imitation of the same. In other cases, in which but one ureter was implanted into bowel, the animal recovered from the operation, but at the autopsy a stenosis with marked hydronephrosis was found.

From the literature and experiments, it seems that transverse section of ureter and implantation into bowel are not indicated in exstrophy of the bladder; but that the Maydl operation is the method of choice. The operation suggested by Dr. Martin is done as a last resort, and as it is impossible in all such cases to do the Maydl operation, it becomes a question between the operator and the patient whether the risk of this last resort is to be incurred. Cases are on record where the patient has survived for some time the double implantation of the

divided ureter. On the other hand, if the patient is left alone it will mean death in a short time.

A detailed account of my work will appear shortly in the *Journal of the American Medical Association,* and I will not say anything more about it at this time.

Dr. PETERSON (closing the discussion): Dr. Kolischer has anticipated me in what I would say in reply to Dr. Goldspohn. Every now and then we pick up a medical journal and see where some man with a great flourish reports a new operation for implantation of the ureters into the rectum, or a case will be reported in which this operation has been performed upon the human being. If it is a justifiable operation, surgeons should employ it wherever it be necessary. If it is unjustifiable, we should strongly condemn it and not employ it, even in the cases of last resort, referred to by Dr. Connell. The surgeon should have some respect for his art, and should not say to a patient, "You are going to die anyway, so you would better let me operate upon you and try this new procedure." That, to me, does not seem good surgery.

I did not in the paper just read go over my experiments and operations in detail; I simply brought the matter to the attention of the members as an answer to the article of Dr. Martin which he read in Philadelphia, and which was published in our official journal. The views expressed by him in this article I believe to be erroneous and I fear will lead to a great deal of unjustifiable operating. I am sorry that Dr. Martin was unable to be here to reply to my paper. I have gone over the literature very carefully and have collected it all up to date. The experimental work of the gentlemen mentioned by Dr. Goldspohn is included in the article, which is an extensive one. The operation of Krynski, like the rest of them, was practically a failure. We have simply a statement of two lines, saying that he never has had a case in which he has discovered infection. That is not enough proof. We must have more than that. We must have microscopic and bacteriologic examinations made of the specimens, and it is for the purpose of showing the unscientific character of much of this work that I have devoted eighteen months to experimental work upon this subject.

Dr. Kolischer spoke of the downward plan of the urine as a factor in preventing ascending infection of ureter and kidney. It is certainly a plausible theory, one that we should consider carefully, and one that has been dwelt on at some length in my article. But I fail to see how the theory will hold good when we consider the facts brought out by certain of my experiments. I took the trigonum of a dog and split it in half. I implanted these separately, removing the mucosa from one orifice.

The kidney corresponding to the ureteral orifice from which the mucosa was removed was infected in ten days. The other was uninfected, and the bacteriologic and microscopic findings were negative. Of course, the same power governed the flow of urine in both of those cases, yet infection occurred in one, and not in the other. At the same time, I had serial sections made of the ureters in order to discover what this so-called valve or sphincter was at the ureteral orifice. I found no valve or sphincter there, but a slit in the mucous membrane, and I do not see how this alone will prevent an ascending infection. I have endeavored in my paper to cover this point, but inasmuch as it is a theory I will not take up your further time in discussing it. Maydl's operation seemed unnecessarily complicated, hence my modification.

Dr. Lyons spoke of continuing this uretero-intestinal anastomosis work, although it has not proved to be a success. It is entirely different work from bowel anastomosis. In this we have to deal with intrinsic dangers which we cannot sweep away, and we have the ever-present dangers of infection in the other, we have something which has been overcome, and which we can still improve upon particularly in reference to the technique. One is an impossibility, the other is a possibility, and it has been proved so.

I can only commend the work I have seen Dr. Connell do. I will say here that Dr. Connell's experimental work and his literary research on exstrophy of the bladder secured for him the Senn prize at the last meeting of the American Medical Association.

Although my experimental work has shown uretero-intestinal anastomosis without the ureteral orifice to be a failure, I feel that the mere proving of this point is of great value and that my time has not been wasted.

ABSTRACTS.

GYNÆCOLOGY.

UNITED STATES.

Hæmorrhage occurring after the Menopause.

E. C. DAVIS (*Atlanta Jour.-Record of Med.*, June, 1900) says that the menopause is a physiological condition, and in a woman with normal generative organs should be complicated by no pathological disturbances. Where the menopause is artificially produced in young women by operative procedures, the nervous symptoms are usually more severe, as the retrograde changes occur more rapidly. These changes affect not only the generative organs, but a retrograde metamorphosis sets up in all the tissues, making them less resistant to disease. It is at this time that atheromatous changes are likely to take place in the blood-vessels, malignant diseases make their appearance, and atrophic changes of the tissues become observable. After the menopause any hæmorrhage from the uterus is always pathological, and should be carefully investigated to determine its cause. The principal cases are:

1. *Granular endometritis.* This usually develops before the menopause, and is continued after. Thorough curettement usually relieves it.

2. *Atheroma of uterine blood-vessels.* This usually occurs in the aged, or in those suffering from atheroma of other blood-vessels. A diet of meats and fruits with tonics and alteratives may prove of benefit, but there is little prospect of perfect relief.

3. *Vaso-motor relaxation,* producing dilatation of the vessels, may cause hæmorrhage before the complete cessation of menstruation. Improvement in the general health, and especially the building up of the nervous system, will correct this disturbance.

4. *Uterine polypus.* This should be promptly removed, great care being exercised to prevent infection.

5. *Uterine myofibromata.* The teaching in regard to these tumors has been misleading and disastrous. While no doubt, in some cases, these tumors decrease in size at the menopause, more often they in-

crease and menace the life and health by continued hæmorrhage, in addition to the possibilities of sloughing and infection from the breaking down of the tissues.

6. *Carcinoma uteri.* The importance of the early recognition of this disease should lead every physician to investigate thoroughly every case of reported hæmorrhage at the time of, or after the menopause. If carcinoma be detected the removal of the uterus and adnexa should be accomplished as soon as possible, unless the disease has already extended high up into the broad ligaments, when a hysterectomy would only hasten the fatal result. Curettement and cauterization temporarily check the invasion and will afford some relief to the patient.

A Simple and New Method of repeatedly sterilizing Sponges by Boiling.

CHARLES A. ELSBERG (*Med. Record,* June 30, 1900) says that for the rapid and thorough removal of pus, blood, or other fluids during operations sponges are far better than anything else, but the fact that sterilization by boiling caused loss of elasticity has led to the substitution of gauze pads, etc. By a study of the physical and chemical properties of the sponge, the writer has devised a method by which sponges may be repeatedly sterilized by boiling without destroying their utility.

The sponges are freed from calcareous matter by immersion in an eight per cent. muriatic acid solution for twenty-four hours, after which they are thoroughly washed in water. They are then boiled for fifteen minutes in a solution composed of: Potassium hydrate, 1 part; tannic acid, 3 parts; water, 100 parts. Then wash in water, carbolic acid, or sublimate solution until all of the above mixture (which is of a dark-brown color) is removed. The sponges are then preserved in a five per cent. carbolic acid preparation. Sponges that have been used can be resterilized by washing them in water and boiling them once more in the solution, etc. The solution can be used any number of times, as it does not deteriorate with age. Sponges thus treated are absolutely sterile, and yet retain all their absorbent qualities.

Abdominal versus Vaginal Hysterectomy for Uterine Carcinoma.

JOHN B. DEAVER (*Jour. Amer. Med. Assoc.,* June 30, 1900) says that the choice of route for hysterectomy must be made in each case. In the majority of cases, however, the abdominal route is given the preference by the writer for several reasons. Few surgeons to-day

in removing a carcinomatous mammary gland would leave *in situ* the axillary glands, yet in an operation for carcinomatous uterus there are two chains of lymphatics in each median half of the uterus to consider, and it is not unusual to have both the upper and lower chains on one or both sides involved, necessitating their removal if it is wished to give the patient a possible hope of recovery. The abdominal operation offers the *only* way by which a complete hysterectomy can be performed. The incision must be a long one, the wound widely retracted, the intestines and omentum kept away from the field by gauze packing, and the light should be good. Where the broad ligament is involved it is impossible to dissect it out easily or completely by the vaginal route. While the ureters are in danger by either route, the abdominal route enables the operator to see better, and thus protect these important structures. If either ureter is torn it must be repaired through an abdominal incision even in the course of a vaginal operation. Catheterization of the ureters is unnecessary by the abdominal route, lessening the danger of kidney infection. While hæmorrhage is liable to occur in either operation on account of distorted, displaced or degenerated vessels the increased facility for seeing the locality of the hæmorrhage gives the advantage to the abdominal method, while subsequent hæmorrhage is a very rare accident in this procedure. In vaginal hysterectomy the intestines are liable to come in contact with the fingers, instruments, ligatures, etc., that have traversed the vagina, which, in cases of carcinoma or in any inflammatory or infectious disease can never be rendered perfectly sterile. In total removal of the uterus by either route there is danger of prolapsing bowel, but by the more perfect closure of the peritonæum from above the danger is lessened in the latter method, and by the layer-to-layer method of suturing the danger of ventral hernia is rendered practically *nil.* Vaginal hysterectomy is applicable only to cases where the uterus is freely movable, and the carcinomatous process confined strictly to the vaginal portion of the cervix or the cervical or uterine canal. Any enlargement of the uterus offers an objection to the vaginal route.

Great Britain.

Vaporization (Atmokausis) of the Endometrium.

A. R. Simpson (*Scottish Med. and Surg. Jour.*, June, 1900) says that his attention was first called to this subject in 1895 by a Russian paper by Professor Sneguireff, who had for some time been making

observations on the value of steam as a hæmostatic. Its use in arresting uterine hæmorrhage and the claims that vaporization of the endometrium had an action at once caustic, hæmostatic, anæsthetic, and antiseptic, led the writer to visit the International Medical Congress in Moscow in 1897, to see the apparatus and listen to its exposition by the inventor. The apparatus consists of a kettle for generating the steam, and a double catheter for conveying it in and out of the uterine cavity. The central tube carries in the steam, which passes out through a series of fenestrations in the intra-uterine extremity of the outer tube. Ludwig Pincus of Dantzig has used also a non-fenestrated catheter in which the steam heat is applied to the interior of the uterus through the wall of the tube, the steam not being allowed to escape. This process he calls lestokausis. The best results are obtained when no narcosis is used, no curetting, with dilatation and protection of the cervix, and with rest in bed until the slough separates, which it will do in three or four days in slight cases. Cauterization from a superficial effect to a complete destruction of the mucous membrane is possible. It depends on the height of the temperature (steam tension) and the contractility of the uterus. The higher temperatures from 110° to 115° C. and of short duration give the best results. The method presents a specific against uterine hæmorrhage from whatever cause, and produces good and rapid results in all forms of metritis, endometritis, and subinvolution. In inoperable intra-uterine cancer atmokausis is the best palliative known. It is also useful for disinfection of the uterine cavity before total extirpation or abdominal operations. While it is useless in severe general infection, it produces excellent results in the early stage of puerperal sepsis. Submucous myomata and malignant neoplasms are excluded from this treatment. Whether it is applicable in gonorrhœic and other acute affections of the uterus is uncertain. There must be absolute freedom of the adnexa from disease. In fourteen cases treated by the writer eleven were cured and the others were improved. All were cases of endometritis with menorrhagia or metrorrhagia in women from thirty to forty-five years of age. As these cases were all treated before a clinic, chloroform narcosis was used, and the application varied in time from forty-five to ninety seconds.

Possible stenosis or atresia of the cervix can be guarded against by covering the catheter with india-rubber tubing. The germicidal power claimed for this method must be doubted after the experiments of Flatau, who found that it took a whole minute before the temperature rose to 75-80° C., and that the heat after that was only 75-85° C. The best results are obtained in cases where the uterine walls are firm

with good contractile power. The only accident of importance occurred in Amsterdam, wherce the fundus of a soft-walled uterus was penetrated by the zestokauter. The advantage of using the atmokauter without an anæsthetic is that painful contractions of the uterus are a good indication of the time to discontinue the application.

Procidentia Uteri in a Girl Aged Seventeen.

THOMAS OLIVER (*British Med. Jour.*, July 14, 1900) gives the following history of a case seen by him at the infirmary. The girl went out to service at the age of thirteen, in a large family where she was expected to do all the housework besides waiting upon the mistress, who was an invalid. Three months after taking the situation she began to menstruate for the first time. When fourteen years old she felt a swelling in the vagina, which reached to the vulvar orifice; this remained in the same condition for about two years when, on lifting a heavy pail of coal, the mass came outside of the vulva. Menstruation was regular for a few months after its first appearance, then disappeared for a year, and had been regular since. There was no trouble with the bowels or bladder except the sense of dragging from the procidentia. When seen, the uterus projected three inches beyond the vulva; the os was well defined; the mucous membrane of the cervix was dry and wrinkled and there was a small ulcer at the right. She could replace the uterus, but it came down with walking. A prolapsed and enlarged ovary could be felt in Douglas' cul-de-sac. The vagina was relaxed and roomy. Ventrofixation was performed, the patient made an excellent recovery. and had no further trouble.

A Combined Rectovaginal Opening in the Human Subject.

J. G. MODLIN (*Ibid.*) was asked to operate on a woman for deformity in the perinæal region. She had been married two years and had had two miscarriages. On examination a well-formed perinæum was found with a slight dimple in the position of the anus, but no rectum or sphincter. The vulva appeared normal, but on separating the labia a movable septum was seen, formed by the posterior vaginal and anterior rectal walls. This septum was about one-sixteenth of an inch thick and movable from before backwards. The vagina and rectum were distinct except at their orifices. This condition had given rise to no symptoms beyond obstinate constipation, and the unpleasantness due to the abnormality. Defæcation usually took about half an hour,

caused such severe pain that she often fainted and always caused hæmorrhage. The operation was as follows: An incision was made in the perinæum in the middle line from the posterior angle of the vulva to the normal situation of the anus; this was continued upward through the fibrous tissue filling in the space between the rectum and the coccyx. The posterior wall of the rectum was separated for about two inches, the rectovaginal septum was then dissected up. The rectum was detached from the surrounding tissues, so that its lower end was freely movable; this was brought back, through the opening made in the perinæum, to its normal position and sutured with fine silk sutures posteriorly and laterally to the skin of the perinæal incision. The two flaps formed by the first incision were brought together in the middle line to form a new perinæum, and sutured with deep and superficial silk sutures. Then the posterior border of this new perinæum was sutured to the anterior wall of the rectum, completing the anus; and the anterior border of the perinæum was sutured to the raw surface of the posterior vaginal wall, completing the vagina. The present condition is most satisfactory. There is a good, firm perinæum an inch and a half long, and the vagina is perfectly normal. The constipation is improved and there is no hæmorrhage or pain with defæcation.

CANADA.

An Appreciation of Pryor's Method for Removal of Fbroid Uterus by the Abdomen, with Report of Ten Successive Successful Cases.

A. LAPTHORN SMITH (*Canadian Prac. and Review,* June, 1900) says that twenty years ago he opposed the operative treatment of fibroids because of the high mortality. Ten years later, following Apostoli's method, in sixty-three out of one hundred and two cases in ten years, hæmorrhage was permanently cured. After the adoption of Baer's method operation seemed more feasible, but after Pryor perfected his ideal method, three years ago, preference is given to that over every other plan of treatment. The question, "What is the mortality?" had been the test. Following Pryor's method, seven cases were operated on last year, and three thus far this year, without a death. One advantage of this plan is, that beginning on the easy side, after securing the ovarian, round ligament, and uterine arteries, and separating the bladder, the cervix is cut across and the tumor rolled out, giving plenty of room to tie the arteries from below upwards.

There is also little danger of injuring the ureters, for the tumor is dragged away from the ureter as it is rolled out. Doyen's method has this advantage on both sides, because he pulls the tumor off the bladder and ureters, and continually gets further away from them; but his method increased the time of operation, loss of blood, and danger of infection. Too great stress cannot be laid upon the importance of feeling for and tying each artery before cutting it, and then putting on a second ligature lest the first may loosen when the tension of the tumor is removed. Chromicized catgut, prepared by the operator, or the Red Cross cumol catgut, prepared by Johnston, is recommended. Beside the six principal arteries there are two small ones that require tying on each side of the cervix. The stump need not be disinfected beyond wiping away the little plug of mucus. The cervix should be hollowed out to make anterior and posterior flaps, which should be securely brought together before closing the peritonæum. If possible, the omentum should be brought down to this line of suture to prevent the intestines sticking to it or the abdominal incision. In the majority of cases the appendages are diseased and should be removed to save future operations. The discomforts of the premature menopause are lessened by their remaining, but the risk is too great. Myomectomy is a mistake except in the case of a single polypus, or a single pedunculated tumor.

Fibroid uteri should be removed as soon as the conditions are discovered, on account of the dangers from hæmorrhage, from reflex disturbances of digestion and circulation, and because delay increases growth and also the chances of malignant degeneration.

A preliminary curettement is unnecessary; moreover, it rarely removes all of the uterine mucosa. Morcellment is never advisable. Through and through silkworm gut sutures, dressed with boracic acid, are the best for closing the abdomen, and should be left in for three or four weeks. Two dressings will usually be sufficient.

A Case of Retroperitonæal Lipoma (Lipoma Myxatoides) with accompanying Retroperitonæal Fibroma (Chondromyxofibroma).

WILLIAM GARDNER and J. G. ADAMI (*Montreal Med. Jour.*, June, 1900) say that the rarity of these tumors renders it expedient that each case be placed on record. They are slow-growing tumors which may attain an enormous size; they are situated usually more to one side than the other; are accompanied by little disturbance of the general health, except progressive emaciation, and, finally, dyspnœa; are usually

crossed by a length of the large intestine, and give good signs of fluctuation, so that they are commonly mistaken for cystic growths until the trocar fails to discover fluid. The case was a married woman who had always had regular and painless menstruation until about three years previous to examination. She had since had pain and profuse flow. Since the birth of a child, a year ago, she had not menstruated, having nursed the child. Two previous pregnancies had been normal. Since the birth of this last child she had occasional attacks of severe bearing-down pains with frequency of micturition. The uterus became badly prolapsed when standing long or on straining at stool, but could be easily replaced. There was some leucorrhœa. The urine was normal except for a few pus cells. The abdomen was large, somewhat distended and *fluctuating*. A clear note was given on percussion in the right lumbar and epigastric region, but dulness was present in the left lumbar region. The perinæum was torn and relaxed, with prolapse of the vaginal walls. The cervix was soft and the vaginal roof depressed by a firm, rounded, smooth, lobular, movable tumor quite independent of the uterus.

Abdominal section showed entire absence of parietal adhesions and revealed two tumors, the larger, abdominal in position, giving a sensation of fluctuation, while the smaller pelvic tumor was firm. The descending colon passed over both in a perpendicular direction, and both were subperitonæal, covered by a membrane with a network of vessels. The larger tumor was removed first by enucleation. This had displaced the intestines to the right, and separated the layers of the ascending mesocolon. The sigmoid flexure was depressed into the pelvic cul-de-sac. The smaller tumor lay within the pelvis, and neither were firmly adherent. Recovery was uneventful.

The larger tumor resembled a mass of light brownish jelly in appearance and consistency. It weighed 3½ kilogrammes and a glairy fluid oozing from it. The smaller tumor was firm and fibroid, having definite hard calcareous areas. The larger tumor appeared much larger than its weight would suggest. It hardened with difficulty in formalin. On dissection the tissue came away in irregular layers, with here and there opaque, fatty-looking foci. The tissue was mainly myxomatous, but everywhere could be seen clusters of fat cells separated from each other by the mucoid infiltration. It appeared to be a lipomatous tumor which had undergone reversion or development into mucoid tissue.

The small tumor had two lobules, the upper gelatinous, lenticular, and almost pure myxoma; the lower fibrous, while the center had

undergone degeneration and necrosis, resulting in an irregular cavity filled with clear fluid. These tumors were peculiarly interesting, as illustrating the metaplasia of the connective tissue. The point of origin of these tumors cannot be given with certainty, but their association with the mesocolon points to that. The duration of growth probably exceeded two years, dating to the pain before the birth of the last child.

PÆDIATRICS.

UNITED STATES.

Inherited Syphilis.

FREDERICK LEAVITT (*Northwestern Lancet*, June 15, 1900) was consulted by a young man who said that when his wife was pregnant about six months he had noticed a hard ulcer on his penis, but not realizing its nature, he continued to have intercourse with his wife, who developed a vulvar sore later. A physician was consulted at that time, who said that it was syphilis. The man confessed that he must have acquired it away from home. Vaginal douches of bichloride of mercury were ordered for the woman, and the man was put on protoiodide pills. When seen by the writer the lesion on the woman had healed, but the man had an unmistakable chancre. A well-developed, healthy-looking boy was born at term, the third in three years. The other children were alive and enjoyed perfect health. Labor was normal, lactation abundant, and as late as the ninth day the infant had not a blemish on its body. Four weeks later the writer was called to see the child and found it completely changed from the plump, healthy baby last seen. Weak and covered from head to foot with pustules (even the palms and soles bore the eruption), it strongly resembled a case of smallpox. It died the next day from inanition. The father relaxed his treatment and two months later had a marked syphiloderma which cleared up on specific treatment. The mother showed no signs of syphilis except a slight falling of the hair. Until recent years it was believed that a woman could not transmit constitutional syphilis acquired after the sixth month of gestation. Durac reported a case where the disease was undoubtedly acquired by the mother at the end of the seventh month of pregnancy and the child was syphilitic; and Vajda reported a case where the infecting coitus took place on the

9th of September, the initial lesion appearing on the 17th of October. Three weeks later a child was born at full term, apparently healthy at birth, but developing syphilitic symptoms soon afterward.

Case of a Child Cretin Where the Effects of Thyroid Treatment upon the Bodily and Mental Condition were remarkably Rapid and Complete.

H. OLIPHANT NICHOLSON (*Ibid.*) first saw the child when it was two years and eight months old, when it presented the characteristic physiognomy and appearance of a sporadic cretin. The history was as follows: The parents were healthy, apparently normal young people, with no consanguinity, no history of alcohol or tuberculosis. Relatives on both sides very healthy, except the child's paternal grandmother, who developed epilepsy late in life. There is one child older and one younger than the patient, who are normal, sturdy children. Both had slight convulsions during the teething period. The mother's health during pregnancy was good, the labor normal, and the child healthy at birth and until four months of age, when whooping-cough developed, lasting nearly four months and complicated toward the end of that period by bronchitis; on account of this and of the child's inability to nurse from the breast she was weaned. It was about this time that a change was first noticed in the child. She became apathetic, sleeping much of the time, the abdomen became enlarged, the child grew fat, showed no signs of intelligence, and had to be fed with a spoon. When seen by the writer she was 26½ inches tall, and the head measures were as follows: From root of nose to occipital protuberance, 11 inches; circumference of head, 18 inches; from ear to ear, 12 inches. The fontanelle was open and 1¾ inches in diameter. The hair was scanty, fair, but not coarse. No trace of the thyroid gland could be found. The heart sounds were feeble, a soft, blowing murmur accompanying the first sound. The radial pulse could not be felt. There was entire absence of sweating and great deficiency in the salivary secretion. The skin was harsh, dry and wrinkled. The temperature was subnormal, and the hands and feet were always cold. The back was curved, and the abdomen pendulous. The appetite was voracious, and in taking food the thickened tongue was always protruded, and the food placed on top of it. Intelligence was not altogether deficient, for while she could not talk, she often understood what was said to her.

Treatment.—Two and a half grains of thyroid powder were put in the food each day for three days, but as some vomiting and diarrhœa

set in, the amount was reduced to one and one-quarter grains. At the end of two weeks the skin felt smoother and warmer; the legs, arms and abdomen were diminishing in size, and the child's movements were less sluggish. Ten days later the radial pulse could be felt, the child slept better and ate less. At the end of a month the child's face looked more intelligent, the puffiness of the eyelids and forehead was disappearing, and the child tried to make her wants known by sounds. The dose of thyroid powder was now increased to two and a half grains daily. At the end of four months no signs of cretinism remained except the abnormal shortness of the legs. She began to talk and gesticulate like other little children. The thyroid treatment was continued, and there was rapid mental and physical improvement until the child's death from an attack of malignant measles eight months later. The younger sister died from the same disease soon after, so there was no reason to consider the older child especially susceptible or less able to withstand the infection. No autopsy could be obtained.

The Diagnosis of Heart Disease in Children.

J. P. CROZIER GRIFFITH (*Jour. Amer. Med. Assoc.*, June 23, 1900) says the first question in diagnosis is to determine the presence of heart disease, and then to decide whether it is congenital or post-natal. The principal diagnostic symptoms of congenital heart disease are: Cyanosis, clubbing of the fingers, thrill, characteristic murmurs, the absence of any great enlargement of the heart. The cyanosis is usually very intense, the tongue is bluish-red, the cheeks purplish, and there is a general blue suffusion of the body. Clubbing of the fingers is even more marked than in chronic lung trouble. The thrill is intense, rough and widely diffused, yet it is not always present. The typical murmurs of congenital heart disease are loud, rough, and the intensity is out of all proportion to the other physical signs connected with the heart. The situation of the murmur is also peculiar, the greatest loudness being over the base of the heart, sternum and the aortic and pulmonary cartilages. But even in young children there may be loud basic murmurs caused by great anæmia. The murmurs of pulmonary stenosis are loudest at the pulmonary cartilage; those due to a perforate septum ventriculorum are most intense over the middle of the sternum. Cyanosis in conjunction with a murmur points to stenosis at the pulmonary orifice, while cyanosis without murmurs points to complete closure of the pulmonary orifice or an anomalous origin of the great vessels.

In post-natal heart disease the symptoms are commonly insignificant or absent, due to the compensation. Shortness of breath is the most common symptom, but anæmic children may have great shortness of breath without any heart lesion. In advanced cases the extreme dyspnœa is the same as at any age. Œdema of the feet or abdomen is a suspicious symptom, but this may exist in connection with post-scarlatinal nephritis, anæmia, tubercular peritonitis, and in marantic infants. Faintness following exertion may occur but is not common. Precardial pain occurs only in advanced cases with extreme lack of compensation. Palpitation is seldom present. Cough usually only exists in cases where the other symyptoms are very marked; it indicates intense passive congestion of the lungs. Hæmoptysis is rare except in bad cases. Anæmia is sometimes a symptom of considerable importance. Murmurs do not necessarily indicate the presence of heart disease. These may arise from anæmia; may develop during and disappear after fever; may be due to pericarditis; or may be what are termed "accidental murmurs," the origin of which are not clearly understood, but which are not associated with valvular disease. On the other hand, heart disease may be present without murmurs, or the murmurs may come and go. In adults, accentuation of the pulmonary second sound is a common sign of mitral disease, but in children the pulmonary second sound is as loud or even louder than the aortic second sound in normal conditions.

Hypertrophy and dilatation resulting from valvular disease is extremely marked in children, but even this is not of itself a positive sign of heart disease. Nephritis will produce enlargement of the left side of the heart. Asthma, with the consequent emphysema, causes the lungs to overlie the heart and may conceal enlargement. In children the heart extends farther to the right, the apex beat being often in th fourth interspace.

As to the variety of disease: In mitral insufficiency there is enlargement of both ventricles, but more of the right, with marked accentuation of the pulmonary second sound; this accentuation is even more marked in mitral stenosis, but the enlargement is usually only on the right side of the heart; often, too, there is a marked thrill diastolic in time. The murmur, too, is diastolic, while that of mitral insufficiency is systolic in time. With both lesions symptoms of pulmonary congestion occur when compensation fails. Other forms of heart disease are not common in childhood.

Pathology of Acquired Heart Disease in Children.

J. DUTTON STEELE (*Ibid.*) says that the tissues of a child are more yielding and more likely to give way under a sudden distending force than the tissues of adult life. Hence, when additional demands are made upon the heart-muscle of a child, hypertrophy takes place more rapidly and dilatation is more common than in adults. The nutrition of the organism is usually better in children, and simple dilatation will not long be present before hypertrophy sets in, and the compensation is usually quick and thorough in the child heart, since the degenerative processes, so common in middle life, are practically absent in childhood.

In rheumatic affections of children the joint lesions are at the minimum, and myocarditis, pericarditis, endocarditis are at the maximum. The heart affection is often the primary manifestation of a rheumatic condition, rather than a complication, as in adults. The most common lesion in cases coming to autopsy is acute myocarditis. Lees ascribes its existence to the direct action of the rheumatic poison, be it infectious or not, upon the heart-muscle. The resemblance between the microscopic findings in these cases and in specimens of the heart muscle in scarlet fever and diphtheria is striking and suggestive. The next most frequent lesion is pericarditis. In seventy-seven out of 115 cases the pericardium was adherent and the changes in the myocardium and pericardium combined presented conditions most favorable to the development of dilatation. Endocarditis is of last importance in the immediate effect upon the heart. However, the lesions seldom occur alone, but each plays its part in a pancarditis.

The great susceptibility of new-born children to pyogenic infection accounts for the heart diseases occurring during the first few days of life. It is probable that the infection often occurs through the milk. In acute infectious diseases myocarditis is of greater importance than inflammation of the serous membranes of the heart, and it occurs alone here oftener than in other conditions. In diphtheria the myocarditis usually begins in the second week and results from the direct action of the diphtheria toxin. The extent of the lesion depends upon the virulence of the original dose. The sudden stoppage of the heart after convalescence is established is probably not due to the toxin but to some other unknown agent of nervous origin, the same as that which causes other paralyses.

Romberg has proved that the poison of scarlet fever alone may cause disease of the heart, oftenest attacking the myocardium, but also the endocardium and pericardium. In many cases the trouble is caused

by a combination of the scarlatinal toxin and pyogenic cocci. The walls of the ventricle are oftener affected than the valves. Scarlatinal nephritis almost always produces dilatation and hypertrophy, and while these changes may affect both sides of the heart, they are more common and more marked on the left. Nephritis from other causes does not affect the heart as much. Measles does not, as a rule, affect the heart. The malformation of the chests in rachitic children, combined with the changes arising in the lungs from interference with their action, may produce hypertrophy of the heart.

Congenital anomalies of the vessels may affect the size and volume of the heart. Hypertrophy of the left heart may follow narrowing of the aorta. Intraventricular openings cause hypertrophy and dilatation, and the right side is most affected. The strain put upon the heart by congenital anomalies may make it a point of lesser resistance for the attack of the various infectious processes.

Myocarditis may be (1) acute infectious, involving both the interstitial tissue and parenchyma; (2) acute interstitial-suppurative; (3) chronic interstitial. In the first the process is usually diffuse, the muscle-fibers being strikingly degenerated. Nuclei are multiplied and sometimes fragmented, and round-cell infiltration appears in the connective tissue between the muscle bundles. The result depends on the virulence of the poison. There may be barely a trace left, or there may be acute fibrosis. The acute interstitial form leads to abscess that may rupture into the pericardium or endocardium or perforate the heart-walls or septum. The third form leads to general fibrous thickening and fibrosis; the cause is usually syphilis, but it may follow healing of abscesses.

Acquired endocarditis is usually left-sided, generally in the mitral valve or its chordæ tendinæ. The lesions are an inflammatory exudation in the connective-tissue layers, with coagulation necrosis of the covering layer of the endocardium. Fibrin from the blood is deposited in layers, forming vegetations. These may be absorbed or lead to thickening and shriveling with stenosis and insufficiency. Emboli may be swept away from the soft vegetations, giving rise to infarctions. These emboli commonly lodge in the arteries of the brain. Chronic endocarditis follows the acute form.

Influenza in Children.

HERMAN B. SHEFFIELD (*N. Y. Med. Jour.*, June 30, 1900) says that influenza is caused by the bacillus of Pfeiffer, discovered by him

in 1892. It is found in pure culture in the expectoration or nasal secretion of patients with acute influenza, and embedded in pus-cells in protracted cases. It requires hæmoglobin for its growth, its failure to grow on ordinary agar distinguishing it from many similar microorganisms. It is destroyed by desiccation, but will live several weeks in non-dried sputum or bouillon. This accounts for the epidemics during the damp seasons. Influenza attacks children regardless of age, neither does one attack predispose to nor immunize against another. It is characterized by a group of inflammatory symptoms of the respiratory, digestive and nervous systems, severe prostration and a marked tendency to complications and sequelæ. Influenza probably enters the system through the respiratory tract, the digestive system perhaps becomes infected by swallowing the expectoration, and the nervous system through extension by the Eustachian canal and frontal sinus. Or the bacillus may enter primarily with the ingesta and infect the blood.

The pathology varies with the epidemic and the individual. The lining membrane of the respiratory tract is usually hyperæmic and sparingly covered with grayish spots. The bronchi and bronchioles are filled with muco-purulent secretion containing the bacillus. The alveoli are involved, and in severe cases the inflammation extends throughout the lung substance, even to the pleura. In mild cases there is catarrhal inflammation of the stomach and duodenum. The solitary and Peyer's glands may become inflamed and thickened, giving rise to suspicion of typhoid. Flesch found perforation of the jejunum in an infant dying from influenza. There is general turgescence of the venous system. Small thrombi are sometimes found in the brain and spinal cord. There have been found purulent exudations in the ventricles containing the influenza bacillus.

Symptomatology.—After coryza, indigestion and general malaise, vomiting, chilliness and fever indicate the acute stage. The cough is dry and harsh, breathing accelerated and painful. The throat is red, the pillars and tonsils swollen, covered with mucus and often with yellowish dots. Fine crepitations at the apices may lead to a diagnosis of pneumonia. In young infants cyanosis may occur. Severe headache and earache follow the involvement of the Eustachian canal and frontal sinus. In severe cases symptoms of meningitis are present. There are hyperæsthesia, somnolence or insomnia and vertigo. The pain in the neck, trunk and extremities often keeps a child in a position resembling opisthotonos. The drowsiness may increase to semi-coma or insomnia may be very persistent.

At the outset there is an abrupt rise of three to five degrees in temperature, remaining constant for a few days and declining by lysis or crisis. In very young infants the temperature, naturally subnormal, is not a reliable guide. In eight infants under two weeks of age, with unmistakable symptoms of influenza, Strassman found the temperature averaged 95°. Prostration is always present, amounting in severe cases to collapse.

Croupous and bronchopneumonia are the most common sequelæ or complication. Meningitis is common, either beginning primarily with the influenza, or following otitis or mastoiditis. Nephritis, pleurisy, pyelitis, purpura hæmorrhagica and pulmonary tuberculosis have all been noted as sequelæ. One case of empyema and one of bradycardia occurred in the writer's practice. Adenitis is often a troublesome complication. Rhinitis, conjunctivitis and periostitis are of common occurrence. Nearly every form of cutaneous eruption may accompany influenza, puzzling the keenest observer.

The death-rate among children is about 20 per cent. Early isolation will often limit the disease to one member of a family, and is of as much importance as in any contagious disease. The early stage of prostration calls for wholesome, nutritious and easily digested foods in small quantities, often repeated. Where vomiting is pronounced, nutrient enemata are indicated. The active treatment must be largely symptomatic. In the writer's experience sodium benzoate has given the best results in the majority of cases. Small doses of acetanilid aid in the reduction of temperature and relief of pain; where depression is feared caffeine may be added. Salol may be added for the rheumatoid pains, and also acts as an intestinal antiseptic.

The writer's usual prescription for a moderate case of the *grippe* is as follows:

℞ Sodium benzoate.....
Salol..... } aa gr jss.
Acetanilide.....
Caffeine.....gr. ¼.

M. One powder.

Sig. One powder every three hours to a child six years old.

If the pain is severe and the child cannot sleep, $^1/_{12}$ grain codeine sulphate may be added to the powder. In connection with the sodium benzoate by mouth, a tablespoonful of the compound tincture of benzoin should be added to a quart of boiling water kept simmering in the room during the illness. The steam acts an as expectorant and antispasmodic. In digestive disturbances small doses of calomel and

ingluvin are useful. Irritability and convulsions may require bromide and chloral. Small doses of strychnia and aromatic spirits of ammonia relieve the prostration. For protracted cough minute doses of creosote, glycerine, alcohol and a pleasing adjuvant may be given.

The Rôle of Purulent Rhinitis of Childhood in the Production of Atrophic Rhinitis.

RICHMOND MCKINNEY (*Ibid.*) says that since Bosworth first announced his belief that atrophic rhinitis was always a sequence of chronic purulent rhinitis of childhood the subject has been discussed by many capable observers, and his opinion often flatly contradicted. While not willing to admit such an invariable rule as Bosworth's, two cases recently seen by the writer prove its truth in certain instances.

Two brothers, 7 and 9 years of age, well developed and good family history, no adenoids or hypertrophy of the pharyngeal tonsil, but with a history in both cases of a purulent discharge from the nostrils for several years back. Latterly crusts of hardened mucus were frequently discharged. Examination of the older boy's nose showed the inferior and middle turbinated bodies and both nares shrunken, showing advanced atrophy. A slight odor and a small quantity of yellow muco-pus in each fossa nasalis. Nasopharynx dry and atrophic. Anosmia. In the younger boy the right nares and inferior and middle turbinated bodies were swollen and inflamed, with a quantity of muco-pus; no odor. On the left side was atrophy and tendency to crust formation. The ability to detect odors was still present and the nasopharynx was normal. One could not wish for a better illustration of the atrophic changes wrought by purulent rhinitis.

The Closure of a Cleft Palate by Lingual Implantation.

CARL BECK (*Ibid.*) recently implanted a portion of the tongue in a case of congenital cleft palate in which the Langenbeck as well as the Davies-Colley operation failed to cover the immense defect. A lateral flap was formed from the tongue, which, after being turned and reflected near the base, was united with the freshened edge of the cleft of the same side. The gaping wound margins of the side of the tongue were accurately united, and the floor of the mouth and the lingual angle packed with iodoform gauze. A mild solution of boric acid was sprayed through the nostrils every fifteen minutes. After nine days the basis of the flap was severed and a week later the

flap was united with the opposite margin of the cleft by the usual uranoplastic procedures.

Acute Mastoiditis following Infectious Diseases.

J. W. MURPHY (*Columbus Med. Jour.*, July, 1900) says that about 20 per cent. of children suffering from an infectious disease have, during the course of the disease, an infection of the mucous membrane lining the tympanum and mastoid antrum. In order that this inflammation may not pass into a chronic condition the physician must ever be on the lookout for ear complications. The trouble usually comes on toward the close of the primary disease, the general tone being lowered and resistance to infection lessened. The presence of hypertrophied lymphoid tissue in the vault of the pharynx of a child suffering from an infectious disease predisposes to extension of infection along the Eustachian tube to the middle ear and thence to the mastoid process. Parents should be informed of the danger of allowing such growths to remain, and their early removal should be urged. If, toward the close of an attack of measles or scarlet fever, there is a sudden rise of temperature with great restlessness at night the ears should be carefully inspected. An older child will be able to direct attention to the pain. If the drum membrane be inflamed, and the handle of the malleus injected, middle ear trouble is indicated. Tenderness over the mastoid or swelling will assist in determining the further extension of the disease. Swelling of the post-auricular gland may lead to the belief that the antrum is involved, which is not always the case. The swelling of the superior posterior wall of the external auditory canal, near Schrapnell's membrane, is indicative of involvement of the pneumatic spaces of the mastoid. The fact that many of these cases recover spontaneously is no excuse for delay. Pain, due to pressure caused by the retention of the secretion, calls for early paracentesis. An internal Wilde incision is the best operation. An anæsthetic should be given. A sharp Graefe cataract knife is best for the operation. Bleeding should be encouraged by warm douches. Where the pain is in the mastoid cells one or two leeches afford relief.

Hot applications, either dry heat or hot douching, are usually more agreeable to children than cold, but sometimes the ice-cap or cold by the Leiter coil is preferred. Poultices should not be used. Germicidal remedies seem to do no better than plain sterilized hot water. Small doses of calomel should be given.

If, after the continuous application of heat or cold for thirty-six

hours, there is still much pain and tenderness over the mastoid, with fever, waiting is not justifiable, but the mastoid cells should be opened at once by Schwartze's classical operation. Great care should be taken not to disturb the relation of the ossicular chain, so that hearing will not be interfered with after healing has occurred. The results from mastoid operations in acute cases are most gratifying, and healing is accomplished in five or six weeks.

A Case of Vesical Hernia in a Child.

CHARLES ADAMS (*The Clinical Review,* July, 1900) says that vesical hernias invariably occur in the median and lower part of the respective rings, inguinal and femoral; if an intestinal hernia is also present its contents are above and at the external side of the vesical hernia. The peritonæum of the sac usually covers only the anterior upper surface of the prolapsed bladder. The sac, whether empty or filled, is usually larger than the prolapsed portion of the bladder, extending farther out or lower down, so that the bladder is found as a small mass at the inferior median aspect of the neck of the sac. Occasionally the protruding portion of the bladder is entirely covered by peritonæum, and rarely there is no sac at all, the protruding portion of the bladder being entirely extra-peritonæal. To this latter class belonged the case reported, occurring in a boy 18 months old. When the child was admitted to the hospital, a long, ovoid tumor, smooth and regular in outline, was found in the inguinal canal and scrotum. Neither tanslucency nor fluctuation could be demonstrated. The tumor increased in size and tension when the child cried, and could be reduced in the horizontal position. Felizet's method was followed in the operation, but after dividing the different layers of tissue, the cut, which should have exposed the sac, opened a cavity from which urine escaped. The hernia consisted entirely of a finger-shaped diverticulum of the bladder with exceedingly thin walls and no peritonæal covering. The bladder was firmly adherent to the cord and canal from which it was carefully dissected up to the internal ring from whence it came. The vesical diverticulum was cut away, the bladder opening closed by continuous suture of the muscular coats, and the viscus replaced within the ring. The internal ring and upper part of the canal were sutured with kangaroo tendon, the fascia and integument with catgut. Perfect healing, without leakage, followed. No bladder symptoms had ever been observed, so that the error in diagnosis was natural. Where bladder symptoms coexist with hernia, vesical injection

or the sound should perfect the diagnosis. Whenever, in operating, the sac cannot be isolated from the inner, lower portion of the ring, suspect involvement of the bladder.

A New Back Brace for Pott's Disease.

JOHN DANE (*Pediatrics,* July 1, 1900) describes a brace which is an attempt to combine the antero-posterior support of the Taylor back brace with the protection against torsion that is furnished by a plaster jacket. The lower part of the brace consists of a light steel pelvic band, circling the back part of the pelvis just above the trochanters. The two thin flat steel uprights are fastened to this just outside of the posterior superior spines, and joined across the top by a piece of similar material, making the brace as wide as possible at the shoulders. The pad plates are riveted to a separate bar fastened to the upright by a flat-headed screw. The opening for this screw upon the cross bar is in the form of a slot, to allow adjustment. The iron work is faced next the body with leather, and can be bent with wrenches. Padded straps pull the shoulders back against the brace above, and an abdominal belt of rather thick leather, to which webbing straps are sewn, gives counter-pressure below. There is no apron or strap about the chest above the diaphragm. Ordinary buckles are riveted firmly to the brace. It not only acts as a lever bace, its pad plates pressing firmly against the transverse processes of the kyphos, but also as a frame or cradle, giving a firm support to the whole thorax. This is important in disease of the lumbar regions in checking movements of rotation, and in the dorsal regions in restraining movements of the ribs. The pad plates can be adjusted with great ease, as the bar carrying them is detachable. As there are no central supports pressure cannot be made upon the spine above the disease. The height and width of the brace at the top permit control of the shoulder girdle without contraction of the chest, adding to the ease in breathing, which is also increased by the absence of pressure over the chest. The simplicity of these braces reduces the cost to less than one-half that of the Taylor brace.

Infantile Amaurotic Family Idiocy.

J. HERBERT CLAIBORNE, JR. (*Ibid.*), says that under the above heading have been grouped a number of cases with distinctive features. The children are born apparently healthy and continue so for several

months; at the end of that time somnolence or sluggishness begins to manifest itself, the child becomes unable to hold itself erect in the mother's lap, falls backward or forward, frequently showing purposeless, irregular movements of the head, body or limbs. These conditions increase in degree as the disease progresses. At the macula of each eye is found a picture strongly resembling that seen in embolism of the central retinal artery. Around the central point is a more or less oval grayish area, whose edges are not sharply outlined, and in whose center the macula appears as a cherry-red spot in blondes, and a reddish-brown spot in brunettes. This picture is an invariable concomitant of the disease, but the exact period at which it first arises has not been determined. The optic disc is at first normal in appearance, but later shows complete atrophy. Nystagmus, strabismus and hyperakusis have been recognized, while in one case there was double third nerve paralysis, and in another mild hydrocephalic enlargement. Death invariably follows, only one case having been known to live longer than two years. Most of the cases occur among Hebrews, a large number being Polish Hebrews, and of twenty-seven cases collected by Sachs, seventeen occurred in the same families. The brain presents the appearances found in arrest of development. Changes are found in the pyramidal cells; also, in the retina and spinal cord.

In the case studied by the writer, a small tubercular tumor of the corpora quadrigemina was found at the autopsy, together with tubercular deposits in other parts of the body. There have been careful reseaches made to ascertain if syphilis could account for these cases, but with negative results. Sachs held that there was an arrest of development in the central nervous system, and Kingdon and Russell that the condition was the result of a degenerative process. Hirsch's recent investigations as to the character of this disease lead to conclusions differing widely from Sachs. The autopsy in his case was performed four hours after death. He found an equal affection of the nerve-cells throughout the entire nervous system, the main features being chromatolysis, swelling of the body of the cell, displacement of the nucleus, destruction and breaking off of the dendrites. The neuroglia was normal and there were no changes in the blood-vessels of the entire system. Hirsch attributes the difference between his findings and those of Sachs to the difference in the hardening process; Sachs, Kingdon and Russell using Müller's fluid in the preparation of the brain and cord, which Hirsch claims interferes with the study of the minute structure of the cell. Hirsch failed to find abnormal conditions on macroscopic examination of the brain, while Sachs, in one

case, found widening of fissures, etc., quite consistent with an arrest of development. The conclusion arived at by Hirsch was that the disease did not consist of an arrest of development, but was an acquired disease affecting the nerve-cells of the entire system, produced by some poison acting directly on the cells, the nature of which is not known. He suggests the possibility of infection through the mother's milk.

Great Britain.

On the Ætiology of Head-shaking with Nystagmus (Spasmus Nutans) in Infants.

John Thompson (*Scottish Med. and Surg. Jour.*, July, 1900) says that the condition described in this paper is a functional co-ordination neurosis of a harmless nature, occurring in infants from four months to one year old, and running a short, well-defined clinical course. In most cases the two symptoms, involuntary head movements and ocular nystagmus, are both present; occasionally, however, the head-shaking only is present. The intimate connection between the two is shown by the facts that when the unsteady eyes (or eye) are closed in sleep or covered with a bandage the head-shaking ceases, but when the head is steadied by the hand the nystagmus increases. There is often a trick of turning the head to one side and staring fixedly out of the opposite corners of the eyes at things. The child's intellect is never affected, no matter how long the condition lasts, and the movements are not followed by the least sign of exhaustion. Mental action seems to intensify the movements, which cease during sleep.

From the connection of the nucleus of Deiters with the oculomotor nuclei and the anterior cornua of the cord it is probably the seat of the disturbance. The disease occurs more often in girls than in boys, and is more common in families where there is a neurotic history, but there does not seem to be any special tendency in infants suffering from this condition to have nervous ailments later on. Seven cases kept under observation for from four to seven years had no further neurosis. Usually the intellect is normal, one or two cases have been noted in so-called "Mongolian" imbeciles. This is not strange, for lack of co-ordination is a characteristic of such children. The symptoms often follow some debilitating disease of infancy, and Henoch claims that reflex irritability from teething may cause it. The disease occurs more often in towns than in the country; in fact, the writer has not been able

to collect the history of a single case in a country home where there was an abundance of sunlight. All of the cases occurred in children living in poorly lighted homes, and who were indoors most of the time. In several cases there was history of a fall preceding the disease, with injury to the head. Out of thirty-five cases seen by the writer, thirty-three were rachitic; but the patients did not seem to improve as rapidly when placed on an anti-rachitic regimen as children do when suffering from the other neuroses connected with rickets.

Symptoms or Phenomena formerly known as Croup.

LANGFORD SYMES (*Dublin Jour. of Med. Sci.*, July, 1900) says that the word "croup" merely expresses a single symptom, just as the terms coma or dropsy. It is well to understand the clinical symptoms, the diseases which produce them, and the significance of the various allied affections embraced by the term. The symptoms are (1) *Laryngeal stridor,* indicating difficulty in breathing caused by some impediment or narrowing, preventing the free passage of the air. (2) *Cough of a barking, "croupy" sound.* Usually inspiratory dyspnœa followed suddenly by two or three croupy barks; caused by irritation or foreign material. (3) *Attacks worse at night,* apparently due to spasm. (4) *Restlessness,* caused by asphyxia and always a grave sign. (5) *Recession of the chest.*

The acute diseases causing these symptoms may be divided into two classes: (*a*) where specific or inflammatory disease exists in the larynx, including diphtheria and laryngitis, and (*b*) obstruction due to spasm, laryngismus. A sharp line cannot always be drawn, for the spasmodic cases are sometimes, though rarely, fatal; and the laryngitis group are seldom devoid of spasm.

I.—*True croup, diphtheria, and membranous laryngitis* are all forms of the same disease. The absence of Klebs-Loeffler bacilli must not be regarded as proof that the case is not diphtheritic. The points stamping the disease as true diphtheria are: (1) The gradual onset, rising gradually to an alarming crisis about the fourth or fifth night. (2) The cervical glands may be enlarged, hard, and painful. (3) Enlarged area of cardiac dulness. This heart dilatation is not constant at first, and may be found at one hour and not at another during the same day. (4) The disease is due to direct infection, or may be traced to foul drains, sewers, vegetable decomposition, etc. (5) Albumin and depression. (6) The possible discovery of membrane in the pharynx and bacteriological confirmation. There is sometimes a septicæmic rash

on the neck and abdomen, knee-jerks are sometimes absent. A low temperature with depression and croupy symptoms presents a grave condition.

II.—*Laryngitis,* including (1) acute laryngitis and (2) laryngitis stridulosa. Acute laryngitis usually follows colds or chills, or succeeds to measles or whooping cough. The swelling and œdema may cause various symptoms from mere hoarseness to fatal œdema of the glottis. Laryngitis stridulosa is a spasmodic narrowing of the windpipe, a catarrhal spasm with more spasm than catarrh. Its special features are: (1) Very sudden onset. (2) Occurrence at night. (3) Recurrence; child is "subject to croup." (4) Often a family affection (5) Quick recovery is the rule. (6) It often occurs in children with enlarged tonsils or adenoids. (7) Usually affects children between 3 and 13 years of age. (8) Vomiting usually gives relief.

Laryngismus stridulus is an entirely different condition, not producing real croupy symptoms. It is a convulsive disorder of young children. A spasmodic affection of the larynx, causing sudden arrest of breathing, or "holding of the breath" in the position of expiration, followed by a "crowing" inspiration. Occurs in rachitic infants from six months to three years of age. The attacks come on suddenly without fever, and the child is well in the intervals. There may be tetanic contractions of the thumbs and toes, or even general convulsions and cyanosis. The trouble may also be congenital; or reflex, due to enlarged bronchial or mediastinal glands. Fresh air, cold salt baths, meat juice and constitutional remedies should be prescribed.

In laryngitis the swelling of the mucous membrane may be relieved by calomel, leeches, ipecacuanha, and antimony. The spasms are relieved by hot applications and steam. Antipyrin carefully given may be useful.

In diphtheritic croup antitoxin (1500 units every morning for four days for a child two years old) should be given as soon as the disease is strongly suspected. Intubation and tracheotomy are to be resorted to if asphyxia threatens.

CANADA.

Treatment of Strabismus from the Standpoint of the Family Physician.

J. T. DUNCAN (*Canadian Prac. and Review,* July, 1900) says that when a child of 3 years or over is brought to a physician because of strabismus, a thorough examination of the eyes should be made, using

atropine to dilate the pupil. Strabismus is due to one of two causes: 1. Paralysis of one of the ocular muscles, but only about one case in ten is due to this cause, and in these cases there is usually a direct history of inflammatory conditions, syphilis, diphtheria, wounds, blows, etc. 2. A faulty shape of the eye; either it is too flat, producing hyperopia, or too prominent, causing myopia, or it is astigmatic. It is possible that in a feeble child a comparatively slight cause may unbalance the eyes, and a proper course of general medicine may restore the balance, but even in such cases the underlying cause is apt to be faulty refraction. If, however, the child is vigorous, it is a dangerous waste of time to adopt a purely waiting policy, for the child will not outgrow faulty refraction, and by waiting a squint may become established so that an operation will be required for its cure, while if attended to promptly there is a probability of a cure by the use of proper glasses. Long delay in these cases may result in a partially blind eye. The duty of the family physician is to urge pompt attention to these cases. In the interval between the child's visit to the family doctor and the consultation with the specialist a drop of the following prescription may be put in each eye once a day. It will do no harm if continued for one or two weeks.

℞ Sulphate of atropine..... 2 grains
Distilled water.....½ fl. ounce.

The drops may be discontinued for a time before the child goes for examination.

Australasia.

Two Cases of Tetanus in Children successfully treated by the Intravenous and Hypodermic Injection of Tetanus Antitoxic Serum.

J. Hodgson Nattrass (*Intercolonial Med. Jour.*, May 20, 1900) says that Kanthack and several other writers have thought that the success attained by the antitoxic serum treatment was apparent only in chronic cases, while in cases developed in less than fourteen days and of an acute type, it was comparatively valueless. The first case cited by the writer, however, goes to disprove this conclusion, for it was of a most acute type. The child was four years old and had been suffering with toothache and a swollen face for some time. A diagnosis of abscess of the jaw had been made at a dispensary. Five days before admission to the hospital the child could not open his mouth, and generalized convulsions began, the convulsions coming on about

once in two hours. The child was perfectly conscious, the jaws were locked, but could be opened enough to admit the tip of a spatula. The abdominal walls were rigid and the joints of the extremities were stiff. Risus sardonicus marked. After a warm bath the patient was placed in a private room and ten grains of potassium bromide and five minims of tincture of belladonna given every two hours. During the first twenty-four hours eighteen definite convulsive attacks occurred, lasting from one-half to eighteen minutes. Chloroform was administered in the severe attacks. Owing to the difficulty in swallowing an attempt was made to administer fluids through a nasal tube, but as a spasm was invariably excited, nutrient enemata were given. The next five days 20 c.c. of antitoxic serum were injected each day into either the median basilic or saphenous veins. The convulsions gradually diminished in number, although some were very severe. Rectal feeding had to be abandoned on account of irritability of the rectum, but the child managed to sip fluid between his clenched teeth. Seven days after admission the jaws could be opened a quarter of an inch, convulsions had ceased, and swallowing and breathing were more natural. The antitoxic serum was discontinued after the five days, as no more could be obtained. Thirty-two days after admission the child was dismissed, cured.

The second case was of a milder type, with no severe convulsions, but with marked risus sardonicus and stiffness of the muscles. Twenty c.c. of the antitoxic serum were injected subcutaneously; this was repeated in forty-eight hours, and subsequently one more dose of 10 c.c. was given. The bowels were regulated and the child made a gradual recovery.

OBSTETRICS.

United States.

Anatomy of the Reflexa in Tubal Pregnancy.

Alexandre Couvelaire (*Obstetrics*, June, 1900) in this article (translated from the *Comptes rendus de la Société de Obstétrique, de Gynécologie et de Pœdiatrie*) demonstrates the existence in the gravid tube during the early months, of a membrane, which, limiting the free pole of the ovule at the side of the tubal cavity, functionates as a reflexa. His facts are based upon the study of two gravid tubes

enclosing living ova. The first was obtained 66 days after the end of the last menstruation, and contained a fœtus 35 mm. in length from the cephalic to the pelvic pole. The other represented a somewhat longer period and the fœtus measured 50 mm. These specimens gave an opportunity to study the tubal reflexa at the two periods of two and two and a half months. The first came from a patient dying of internal hæmorrhage after a bimanual examination, and was found at the autopsy, the second from a woman who had a laparotomy performed for ectopic gestation.

After hardening of the specimens, serial sections were made running perpendicularly to the axis of the sac. From within outward was a series of concentric circles: (1) The complete amnion, slightly retracted and separated: from the subjacent chorion. (2) The chorion. (3) Intervillous space. (4) The external capsule of the ovum. (5) The distended tubal wall forming a complete circle, of which the total circumference in the second specimen was 121 mm. In the mesosalpingian sector, corresponding to the zone of parietal fixation of the ovum, the ovum was adherent to the wall; while opposite the tubal wall remained separated from the capsule of the ovum by part of the tubal cavity. This free part of the capsule of the ovum corresponds topographically to the reflexa. At the level of this reflexa, chorial villosities and intervillous space (in the first specimen) are as much developed as at the parietal insertion of the ovum. Later, as seen in the second specimen, atrophy of this reflexa, by means of thrombosis of the umbilical vessels and atrophic degeneration of the villosities of the chorion, is already effected throughout nearly the entire reflexa. Two absolutely distinct layers exist in the reflexa: (*a*) an internal layer, continuous, compact, limiting the intervillous space. The cells in this layer are of two kinds: (1) Large, living cells, grouped into a solid mass, lodged in alveoli of an amorphous, intercellular stroma, analogous to the fibrin streak of the uterine ovum; these cells are in a relation of continuity with the epithelial processes of the reflected placenta. (2) Cells in the process of degeneration, isolated and separated by traberculæ of the amorphous stroma. (*b*) An internal, non-continuous, fibrinous layer, strewn with degenerated cellular elements and infiltrated with round cells.

At the source of reflexion the internal layer of cells is continued, forming a complete capsule for the ovum, while the fibrinous layer ceases. The cylindrical epithelia of the mucosa of the tubal wall was arrested at the summit of the angle of reflexion, or reflected for a very short distance (½ mm.). Blood-vessels cannot be made out at the

angle of reflexion or in the continuity of the reflexa. There is not the decidual and vascular base found in a uterine reflexa of the same age. The decidual action in the gravid tube is not as intense or general as in the gravid uterus of the same age. In the second specimen leucocytic infiltration of the fibrinous layer and degeneration of the cellular elements of the alveolar layer of the large cells of the reflexa had further advanced.

Notes on a Case of Extra-uterine Pregnancy.

E. P. GEARY (*Med. Sentinel,* June, 1900) was called to attend a patient at some distance, who gave the following history: She had been married about two years. Soon after marriage she became pregnant. About the third month she had an attack of pain in her abdomen so sudden and severe that she fainted. For several days she suffered from severe shock, the least movement in bed causing her to faint. She was far from any doctor and after remaining in bed some days she was able to be up. Although her abdomen ceased to enlarge, she supposed that pregnancy was progressing and expected to be confined at the usual time. A few months after the time of her expected confinement menstruation recurred and her health continued good for some months. Later on exhausting diarrhœa set in and she became so weak and emaciated that she took the long journey necessary to consult a physician. She was found to have a slight elevation of temperature, very rapid, weak pulse, and complained of acute pain in rectum. Rectal examination discovered a small bone, and then another. An anæsthetic was administered, the sphincter dilated, and nearly all the bones of a fœtus removed from the rectum. The next day her bowels moved naturally, and convalescence, though slow, was satisfactory.

Hæmorrhage after Confinement.

HERMAN E. HAYD (*Jour. of Med. Assoc.*, June 30, 1900) says that hæmorrhage after confinement presents itself in many forms, often demanding the greatest skill and most prompt action on the part of the medical attendant; fortunately, it is largely an accident that may be prevented by forethought and careful management. Uterine inertia is responsible for most cases; this may be due to tedious labor, hydramnion, twin pregnancy, frequent child-bearing or an overloaded bladder. Irregular contractions, usually due to unnecessary traction

on the cord or placenta is another cause. Slight placental adhesions or a hæmophilic tendency may lead to early hæmorrhage. Application of the binder before the uterus is firmly contracted often permits concealed hæmorrhage. Alarming hæmorrhage may follow too early assumption of the sitting posture for defecation or micturition. One almost fatal case resulted from the patient's rolling over carelessly in bed to allow of arrangement of the bedclothes. The treatment of these early hæmorrhages consists in the stimulation of uterine contractions by manual manipulation, extraction of clots, shreds of membrane or placenta, the administration of ergot and stimulants, strychnia, digitalis, and the ordinary remedies for shock. A hypodermic of one drachm of sulphuric ether acts well. The foot of the bed should be elevated, and the legs bandaged. Large saline injections, either subcutaneously or by bowel, should be given, if there is much loss of blood. Intrauterine injections of very hot water should be tried, and when other means fail the uterus and vagina should be packed with iodoform gauze.

Lacerations in the cervix, the vagina, the side of the urethra and through the labia to the pubes may be the cause of hæmorrhage. These anterior tears often occur in the attempt to save the perinæum and should be repaired immediately. Where there is bleeding from a suspected tear, the patient should be immediately placed upon a table, for it is impossible to make a thorough examination while the patient is in bed. Bleeding may take place from a ruptured varicose vein, or incipient malignant disease of the cervix; the former can usually be controlled by pressure with a gauze pad, while the latter must be treated on general surgical principles. Hæmorrhages occurring some days after labor may be due to retained pieces of placenta or membranes; oozing around these takes place until the uterus relaxes, and there is a sudden gush of bright red blood. Fibroids may cause alarming hæmorrhages and are not easily diagnosed without thorough examination. A retroverted uterus is often responsible for profuse, bloody lochial discharge and late losses of blood. A proper fitting pessary after the uterus has been lifted into position will relieve this. An old endometritis, or a recent septic endometritis, or gonorrhœal endometritis, are often associated with hæmorrhage. Tonics, good food, open-air life with not too great exertion, careful regulation of the bowels, combinations of ergot and mineral acids, and ergot and iron, tend to restore the tone of the uterine muscle, stimulate its contractile power, and lessen hæmorrhage. Electricity in the form of faradization is an

effective uterine stimulant. The coarse coil with slow interruptions should be used.

After the eighth day of the puerperium the patient should be directed to assume the knee and chest position for three or four minutes, twice a day. This encourages anteflexion and involution, and prevents retrodisplacements. The length of time a woman should remain in bed depends upon the individual. When the uterus is well contracted and all flow has ceased, it is safe to allow the patient to get up.

The Treatment of Puerperal Infection.

J. B. KILLEBREW (*N. Y. Med. Jour.*, June 30, 1900) says that infection of the endometrium during the puerperal period may result in a sapræmia or a true septicæmia according to the nature of the bacteria producing the infection. The clinical symptoms are almost identical, bacteriological examination alone being able to settle the question. But for practical purposes it is useless to waste time in deciding that matter, for upon immediate treatment largely depends the recovery of the patient. It is safe to treat every case as one of septicæmia, and if it is sapræmia the treatment will affect a cure. The preventive treatment of puerperal infection is not as carefully carried out in private practice as in hospitals, hence the percentage of deaths from puerperal fever is now much greater in private practice, whereas before the days of asepsis and antisepsis the mortality in lying-in hospitals was appalling. The writer believes in the hot vaginal douche of bichloride solution (1 to 10,000) after the membranes and placenta have been expelled. When manual removal of the placenta is necessary the uterine cavity should be thoroughly irrigated after the operation with hot sterile normal salt solution, then tightly packed with two and a half per cent. iodoform gauze, to be left in position for forty-eight hours, then removed and replaced by a loose packing of the same material for another forty-eight hours. Before delivery the abdomen and external genitals should be scrubbed with soap and bichloride solution, and no false delicacy on the part of the patient should interfere with this as a routine practice. When, in spite of precautions, the patient has a chill and a sudden rise of temperature, the cause must at once be ascertained. Malaria must be eliminated by thoroughly cinchonizing the patient. Intestinal toxicosis, a frequent cause of elevated temperature, can be eliminated by irrigating the bowel with normal salt solution. If it is found that the uterus is the offending organ, the following treatment must be instituted at once: The pa-

tient should be prepared as thoroughly as for a laparotomy, but no anæsthetic is required. The perinæum is drawn back by a short retractor, and the cervix pulled down. A large-sized return flow irrigating tube is carefully introduced into the uterus to the fundus. The douche-bag should be at least five feet above the patient, and the uterus should be irrigated with two gallons of a saturated solution of boric acid at a temperature of 110° or 115° F. If, an hour after the douche, the patient's temperature is above normal, the douche may be repeated, and so on until six douches have been given. If this procedure fails to reduce the temperature, the patient is placed in the lithotomy position (preparations as before). The end of a strip of iodoform gauze four inches wide is carried to the fundus by blunt forceps, and the strip inserted until the uterus is firmly packed, as well as the vagina. If the temperature is normal at the end of twenty-four hours the gauze may remain another day and then be removed, not to be renewed. If temperature still persists, curettage and opening of the *cul-de-sac* must be resorted to. An anæsthetic should be administered and the vagina as well as the external genitals scoured and irrigated with bichloride solution. After the use of a large-sized sharp curette, irrigate with hot normal solution and pack uterus and vagina with ten. per cent. iodoform gauze. After forty-eight hours remove the gauze and repack with five per cent. gauze, which is to be left for forty-eight hours more. Douglas' *cul-de-sac* must be opened and drainage established if the temperature still persists. The incision is made through the vaginal mucous membrane *only* just where it is reflected from the uterus, then the finger is pushed through into the peritonæal cavity. Through this opening the pelvic organs may be examined and any existing adhesions broken up. The opening is then stretched with the fingers and strips of iodoform gauze inserted until the pelvis is well filled and the uterus surrounded. Usually when the cul-de-sac is opened a large amount of muddy toxine-laden serum flows out; this loss in fluid must be compensated for by high saline enemata, and water is given to the patient by mouth as soon as the anæsthesia nausea subsides. No food should be given for eighteen hours, and the urine should be drawn by catheter every three hours. The vaginal and uterine dressings are removed in from forty-eight to seventy-two hours, while the *cul-de-sac* dressing remains for a week, then a lighter one is applied, to be removed every four days until the opening closes. The application of the *cul-de-sac* operation to these cases belongs to Pryor of New York.

CANADA.

Posterior Positions of the Occiput.

K. C. MCILWRAITH (*Canadian Prac. and Review,* June, 1900) says that in spite of the forces tending to bring about the O.L.A. position at the brim, in certain cases the occiput is directed posteriorly; and in the majority of these cases the back is toward the right. In order that natural rotation should take place at all good flexion is necessary (unless the pelvis is very large or the head very small), because, as the occiput rotates from the rear to the front at some time during the process the long diameter of the head must be in the transverse diameter of the cavity. With good flexion the sub occipito-bregmatic, 3¾ inches, will engage. With poor flexion the occipito-frontal, 4¼ inches, will engage, which could not pass the transverse. Under these circumstances the occiput is rotated still further to the rear and the head has to be delivered in that position. Two lines of treatment offer: (1) Leaving the case to nature as long as possible, and delivery with forceps if rotation does not take place. (2) Manual rotation of the occiput to the front. The former is objectionable because the labor is long and exhausting, great force is required to deliver with forceps in this position, and the forceps are apt to slip. The forceps, moreover, tend to undue flexion, pressing the child's forehead against the symphysis. If forceps must be used, they should be of the axio-traction pattern, and should be drawn slightly posterior to the ordinary axis of traction.

A posterior position should be suspected whenever abdominal palpation shows the back is to the right, progress slow in spite of good pains, and the fœtal heart unusually hard to hear. *Certain* diagnosis must be made before the head becomes fixed. As soon as the os is dilatable the patient should be chloroformed and the position determined by the hand of the attendant. If the occiput is posterior, dilate the os if necessary, push the head above the brim, and rotate it to the front by the internal hand, while the external hand pushes the shoulders around at the same time. Then apply forceps and deliver. The patient should be placed in Sims' position or the Trendelenberg to prevent prolapse of the cord.

Use of Ergot in Obstetric Practice.

CHAS. J. C. O. HASTINGS (*Ibid.*) says that the chief uses of ergot are (1) as a prophylactic given immediately after the birth of the child,

and (2) to make tonic the contractions produced by other means. Ergot has been accused of producing hour-glass contractions, but the only cases of hour-glass contractions, two in number, in the writer's experience, occurred in cases where no ergot had been administered. The great objection to ergot is that it is a drug over which we have no control after its administration. Its action begins in about twenty minutes from the time of administration, attains its maximum intensity in about half an hour, and lasts for an hour and a half. Its effect is tonic contraction of the uterus, and the question as to the time of its use is the question, "When is it safe to have tonic contraction of the uterus?" Certainly *not* before the birth of the child, for if the birth be delayed by any obstacle, there is danger to both mother and child. Quinine is a good substitute for ergot in the first or second stage of labor. As it requires at least twenty minutes for its action, it should be given immediately after the birth of the child, then in fifteen minutes begin to expel the placenta by Credé's method, if it does not come away before, and by the time the action of the drug is fully felt the uterus will be empty and contracted, preventing hæmorrhage. One reason that ergot is often condemned is the difficulty of obtaining a reliable preparation. Squibb's fluid extract is best.

Great Britain.

Clinical Note on a Case of Vulvar Hæmatoma.

J. W. Ballantyne (*Scottish Med. and Surg. Jour.*, June, 1900) says that cases of vulvar hæmatoma occur about once in 1600 labors. The writer was called to a case attended by a medical student, who stated that a swelling had suddenly developed in the left labia of a parturient patient. This was first observed at 5:15 P.M., and when seen half an hour later it was the size of a fœtal head and increasing so rapidly that it could really be seen to grow. It was bluish-black in color, and the skin covering it was distended almost to bursting. Palpation could detect no pulsation in the mass, which was partly solid and partly fluid. The patient was a young primipara at full term. Labor had lasted about nine hours and had been perfectly normal. The membranes ruptured shortly before the appearance of the hæmatoma. The abdomen was not pendulous, nor were there varicose veins in the labia. The patient was complaining greatly of pain in the left labium, was somewhat exsanguinated and œdematous under the eyes. Examination showed

the fœtal head engaged in the O.L.A. position and well flexed. There was no contraction of the pelvic brim. It was decided to attempt to deliver by forceps. The head was easily brought to the perinæum, and just at the moment when it was being delivered the hæmatoma bulged into the fenestra of one of the blades and ruptured with a clean-cut tear. A mass of blood clot, with some fluid blood and serum, was expelled. A good-sized male infant was quickly delivered, and the placenta and membranes removed manually. By this time the hæmorrhage from the hæmatoma had almost ceased, but the left labium was still enlarged, its tissues seeming to be infiltrated with blood. The parts were washed with a weak bichloride solution and the edges of the tear brought together as well as possible by four or five silkworm gut sutures. Owing to the thickened condition of the labium the wound gaped in the middle and was loosely packed with iodoform gauze, and some strips of gauze were placed in the vagina to prevent if possible, infection. Iodoform was liberally dusted over the labium. The patient was somewhat collapsed, but rallied and made a good recovery. Five months later the labium was of normal size and appearance. A trace of albumin was found in the urine during the first few days of the puerperium, but disappeared under a milk diet, as did the œdema of the face.

The case forms a characteristic instance of one variety of thrombus or hæmatoma complicating labor; that in which the blood escapes into the tissues of one or both labia and to some extent into the vaginal wall. A thrombus may also occur entirely in the vagina, and rarely within the pelvis. Thrombi usually form during the puerperium, occasionally during the second stage of labor, and very rarely during the first stage or in pregnancy. The etiology is most obscure. None of the commonly alleged causes were present, such as traumatism, twin-labor, large fœtus, excessive ossification of the fœtal head or varicose veins of labia or vagina. There was no reason to suspect a hæmophilic tendency. The transient nephritis may have predisposed to it. The pathogenesis is no less obscure. In a specimen examined by Perret a sliding or displacement of the layers of tissues in the pelvis, and more especially in the vaginal walls, had taken place, and into the space thus produced the blood had been poured. With the soft parts *in situ*, and with the pelvic canal wide above and narrow below, as the fœtal head is pressed downward, the soft parts may be displaced downwards in front of it, producing a separation of the strata of the vaginal walls and their immediate surroundings; into the space blood may be poured during labor or soon afterwards in the puerperium.

Three Cases of Puerperal Eclampsia.

FREDERICK SPURR (*The Lancet,* June 16, 1900) describes three cases occurring in his practice in a single year. The first case had been in excellent health throughout pregnancy, labor was rapid and easy, but the midwife noticed some twitching of the face and hands, and said that the patient seemed dazed. An hour after the birth of the child she was seized with a violent convulsion, and a physician was summoned. Five grains of calomel and forty grains each of chloral and bromide and "some digitalis" were administered by mouth. There was some quieting effect produced and a hypodermic of one-fifth of a grain of pilocarpine nitrate was given. Later in the day the convulsions returned, the intervals between the spasms being hardly perceptible. Chloroform, almost to surgical anæsthesia, was persistently used, and bromide and chloral given. During the first twenty-four hours following the birth of the child she had about fifty convulsions. Urine and fæces were passed involuntarily about seven or eight times. The urine contained 30 per cent. of albumin. The patient remained unconscious for three days, and on recovery had no recollection of any events since about four hours before the birth of the child.

The second case had convulsions coming on after the birth of the child; the treatment was practically the same, except that two minims of croton oil was substituted for the calomel. The urine was repeatedly examined, but was perfectly normal before, during and after the eclamptic attack. The third case was less severe, as the patient had been on restricted diet and appropriate treatment for albumin for some weeks previous. The writer believes that chloroform, chloral and bromide is the best treatment in these cases, although in future he would use copious and repeated enæmata together with the purgatives by mouth.

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THE CONSIDERATION OF THE METHODS OF HÆMOSTASIS IN ABDOMINAL SURGERY.*

BY E. E. MONTGOMERY, M.D., PHILADELPHIA, PA.

The evolution of abdominal surgery presents many subjects of the greatest interest to one interested in its development. From its origin, one of the most important considerations was the means for the control of hæmorrhage. As we study its evolution we witness the practice of various methods. McDowell ligated the pedicle, left the ligature long, and brought it without the wound, to be subsequently withdrawn. Nathan Smith early resorted to the animal ligature, using strips of kid. At the time I began the practice of abdominal surgery, the surgeons were just returning to the ligature from the use of the clamp upon the pedicle, as it had been employed by Atlee, Peaslee, and Spencer Wells. The ligation was being enthusiastically advocated by Lawson Tait, who was then appearing upon the horizon as an abdominal surgeon. Keith was employing the hot iron to the stump instead of the ligature. In recent years the ligature has been almost continually employed upon the pedicle after ovariotomy, but a great variety of ligatures, as silk, catgut, kangaroo, tendon, muscular tendons, silver and iron wire, have been employed. Many have been the methods for rendering the ligature sterile and inert. The greatest difficulty in the control of hæmorrhage was exhibited in the operations upon the uterus for fibroid growths. The earlier operations consisted in the amputation of the organ through the cervix using the latter as a pedicle. It was ligated en masse and occasionally dropped back, but unless the ligation was done with the elastic ligature, hæmorrhage subsequently was not infre-

*Read before the Philadelphia Obstetrical Society, October 4, 1900.

quent. The elastic tissue of the uterine structure, the portion external to the ligature would shrink, permitting hæmorrhage to recur, and where the pedicle had been dropped it might be very severe before it was recognized. Where the elastic ligature was employed, not infrequently the stump external to the ligature would become devitalized and slough, forming a source of infection perilous to the life of the patient. The danger of hæmorrhage was thought to be avoided by the use of the shoemaker stitch, as practiced by Marcy. When ligated the peritonæum was covered over the stump, and the latter dropped back. In firm ligation of the stump this sometimes sloughed, increasing the danger. In 1880, when I performed my first hysterectomy, the use of the clamp was the recognized method of procedure. Even those, who, like Tait, advocated the ligature for the ovarian pedicle, were equally positive in their assertion that the clamp should be used on the uterine pedicle. The pedicle was brought out at the lower angle of the wound. It required to be supported by strong pins passed in such a way as to rest upon the abdomen. These frequently made great pressure upon the skin, particularly when the pedicle was short. It required careful union between the peritonæal surfaces of the stump and the parietal peritonæum in order to prevent the entrance of infection into the abdominal cavity. The external portion of the stump necessarily must slough off, thus decreasing very greatly the ability to keep the wound an aseptic one. The convalescence of the patient was necessarily slow. It was followed by a weakened ventrum, greatly increasing the danger of subsequent hernia. These objections to the procedure naturally led to various attempts to obviate the necessity of treating the pedicle externally. About the same time Eastman and Mary A. Dixon-Jones advocated hysterectomy, and Baer, Goffe and others resorted to the amputation of the uterus below the internal os, while the uterine artery was ligated upon each side and the stump covered with peritonæal flaps. These methods of procedure marked a wonderful improvement upon those previously pursued. In these operations the broad ligaments were ligated and the ligatures placed in non-elastic tissue so that hæmorrhage was less likely to occur. In either method, however, the use of at least four ligatures was required. These ligatures, when of silk or material which is likely to remain in the body without destruction for a length of time, were frequently found to be capable of causing serious disorder and the development of inflammatory masses resulted which frequently broke down in suppuration. I have seen such abscesses occur three or four years subsequent to the operation. Such occurrences were particularly frequent where the thick, heavy-braided silk was employed. Where silk ligatures

are used they should be as fine as is compatible with secure ligation of the pedicle. But silk ligatures are with difficulty maintained in an aseptic condition, particularly where the operation is done through a septic field. When infected they continue a source of irritation, causing the development of an abscess or sinus which remains until the infected ligature is removed or has been thrown off. The occurrence of such a condition is naturally considered a reflection upon surgery and has led to various attempts to avoid its possibility. As a consequence the animal ligature became employed. Catgut is the most easily secured, but requires very careful preparation to prevent its becoming a source of danger. In addition, the sizes sufficiently large to make it a secure ligature are likely to slip when the pedicle is thick, and permit the recurrence of bleeding. It is a foreign body which Nature must take care of, and it may occasion trouble. In recent years it has been recognized that small vessels when secured by hemostatic forceps for a short time would, upon their removal, fail to bleed. In other words, the crushed tissues arrest hæmorrhage and obviate the necessity for application of the ligature. The recognition of this condition caused instruments to be devised to crush the pedicles containing the larger vessels in order to obviate the necessity of ligation. Among the early advocates of this procedure was the ingenious surgeon, Doyen, of Paris, and nearly a contemporary of his was Tuffier. These gentlemen employed an instrument known as the angiotribe, capable of crushing the tissues. This instrument was permitted to remain on the parts for from thirty seconds to a minute. After its removal, the pedicle was cut and the surfaces left without ligature.

While successful in the majority of the cases, occasionally one would occur in which hæmorrhage would recur, and these have been sufficiently frequent to lead the majority of men to prefer a ligature rather than to trust to the angiotribe alone.

On my recent visit to Paris I had the opportunity to witness operations by Doyen, and found that while he used the angiotribe in all his abdominal operations, he only employed it to crush the tissues and form a groove in which a catgut ligature should remain without danger of its slipping. In this way the angiotribe has an important place and can be employed with advantage when the pedicle of an ovarian tumor is thick, or in the removal of the uterus, when the instrument serves well to prepare a groove for the ligature. This instrument which I exhibit has a simple mechanism, and can be easily and quickly applied, without the manipulation of a cumbersome screw, as in some of the instruments that are offered for our use.

In conclusion, I appreciate the angiotribe as a useful instrument, but would not trust it without being supplemented by the ligature. In catgut properly prepared, we have a ligature which is capable of absorption and yet may remain sufficiently long to insure the patient against hæmorrhage. I have been using this catgut now for several years and have seen no cases in which it has given rise to trouble. It requires, however, careful preparation and preservation. While I have no doubt the catgut for sale in the shops has been conscientiously prepared, yet the opportunities for infection in its preparation and preservation are so great that I prefer to use that which has been prepared under my own direction.

VARICOSE VEINS OF THE VULVA COMPLICATING PREGNANCY; DERMOID CYSTS.*

By Wilmer Krusen, M.D., Philadelphia, Pa.

A varicose condition of the veins of the lower extremities, vulva, vagina, and inferior part of the rectum is quite common during the latter part of gestation; and it is only when such a dilatation of the vessels becomes excessive, or when some accident occurs producing rupture that marked symptoms or serious consequences result. The gravid uterus, by its pressure upon the veins, causes a retardation of blood in the vessels, which gradually become elongated, dilated, tortuous and thickened. The labia majora are usually most affected, and the size may vary from a merely perceptible increase in the normal venous calibre to a mass as large as a fœtal head, as in the case reported by Holden. No annoyance results ordinarily, although many women complain of an uncomfortable feeling of weight while in the erect position, and sometimes of an itching or slight desire to urinate.

The recognition of the condition is comparatively easy, the swollen labia with the compressible, dilated blue veins, which can be distinctly seen and felt beneath the skin, resembling a convoluted mass of angleworms. The chief danger is rupture during pregnancy or labor, giving rise to either a subcutaneous or frank hæmorrhage of alarming character. However, this is rare, as "the same relaxed condition of the tissues which permits such varicosities seems to safeguard the perinæum, which is usually relaxed, from lacerations. These patients, therefore,

*Read before the Philadelphia Obstetrical Society, October 4, 1900.

will as a rule escape serious accidents unless the oncoming head be very large." (Darnall.)

Occasionally a fatal result has ensued, as in a case reported by Cazeaux and Tarnier ("Text-Book of Obstetrics"), in which the patient, a pregnant woman in other respects in good health, attempted to leap from her bed and fell upon the edge of a chair, striking the vulva; a hæmorrhage so severe as to prove fatal in a short time was the result. At the autopsy, the only lesion which could be discovered was a contused wound about half an inch in length upon the external surface of the left internal labium; and water injected into the primitive iliac vein



Varicose Veins of the Vulva.

escaped rapidly from this little wound. Had the cause of hæmorrhage been discovered as soon as the accident occurred, the effusion could have been certainly stopped by direct pressure.

The treatment to be employed during gestation is the use of astringent lotions and vulvar pads kept in position by the ordinary T bandage or an elastic bandage. The patient should be cautioned to wear her clothing loose, having no constricting bands at the waist. Rest in the recumbent position for a few hours daily is advisable. Lifting, straining and constipation should be carefully avoided, and the general health and muscular tone of the patient be promoted by tonic treatment.

If rupture should occur, the hæmorrhage may be temporarily controlled by pressure; but as bleeding is apt to recur when the pressure is removed, the direct ligation of the vessel or ligature en masse is advisable. Unusual anxiety is felt and extraordinary care is exercised during labor, and every effort is made to prevent any laceration of the soft parts with consequent hæmorrhage.

This illustrative case is reported, not because of the rarity of the condition, but because of the unusual size of the varicosities. The patient was a multipara of about thirty years, who consulted her physician for the remarkable vulvar enlargement during the seventh month of gestation. The customary warnings and directions were given and the case watched until the pregnancy terminated. Labor was easy and absolutely normal, no dystocia was caused by the pathological condition, and in a few weeks the vulva had returned to a normal size and appearance.

A CASE OF SUPPOSED URETERAL TRAUMATISM.

By Henry B. Stehman, M.D., Chicago, Ill., and Los Angeles, Cal.

In the absence of positive occular demonstration with symptoms pointing to injury of either the bladder or ureter, followed by the escape of urine through a fistulous tract of the abdomen, it is sometimes extremely difficult to accurately locate the defect.

The case about to be reported was one with which I was associated and present points of unusual interest and it seems to me should be reported—by permission I am enabled to do so.

Miss ——, Aet. 50, of medium size, large and deep pelvis, well nourished, with an extraordinary deposit of abdominal fat, had been suffering for a number of years from gradually progressing fibro-myoma, a growth which had developed to a degree that distressing pressure symptoms were caused by its lateral and upward encroachment upon the abdominal viscera and pelvic organs.

The portion of the growth which filled the left half of the pelvis was developed from the uterine fundus, whereas upon the right side the myoma spread out between the folds of the right broad ligament, the walls of which had naturally been thinned by the process and pressure adhesions universally formed. This intraligamentous portion develop-

* Read by title before the Chicago Gynæcological Society, June 15, 1900.

ing in the direction of least resistance had filled the floor of the pelvis on that side. The adhesions were universal; to the omentum and portion of the small intestines above and to the pelvic viscera below.

The bladder was drawn up and spread out on the anterior surface of the growth leaving scarcely more than the peritonæum and mucosa for its wall.

In a patient therefore with an extra deposit of adipose tissue in the abdominal wall, having a large fibro-myoma unsymmetrically developed, a portion of which was intraligamentous, with extensive adhesions that were old and firm and with attachments within the ligament, one can appreciate that the case was one of more than usual difficulty.

The difficulty, of course, arose from the size and form of the growth and its adhesions, and the danger in the resulting hæmorrhage which would necessarily follow in its delivery. In the removal, however, nothing of special interest occurred until the attempted enucleation of the intraligamentous portion.

This part of the work was left for the last; the omental and peritonæal adhesions were all separated and bleeding vessels secured, broad ligaments ligated and severed from the growth, the bladder reflected upon itself, the posterior peritonæal cuff dissected off and the peritonæal covering of the neoplasm split in order to facilitate the enucleation of that part of the tumor from its connective tissue bed.

This naturally excited excessive hæmorrhage, which was difficult to control, owing to the location of the vessels, the depth of the cavity, the thickness of the abdominal wall and the presence of the tumor.

With pressure sponges and pressure forceps all bleeding points were secured temporarily, and later permanently, by the use of ligatures.

The subsequent part of the operation included amputation of the cervix for removal of the tumor, and the ordinary details necessary to closing over the stump and rendering the entire portion extra-peritonæal.

In making the toilet, a gauze protected drainage tube was inserted to allow of the discharge of the excessive amount of bloody serum which follows the breaking up of such extensive adhesions.

It goes without saying that in a tumor of this size, in which a large abdominal incision is necessary, with the breaking up of old and firm adhesions involving the disturbance and handling of the intestines, the management of the tumor itself, the time consumed in controlling the hæmorrhage and closing the abdomen the patient necessarily would suffer considerable shock.

From this, however, by vigorous stimulation she fully rallied and

gave every evidence of making an uninterrupted and complete convalescence.

At the end of twenty-four hours practically no more serum was obtained by aspiration, and so the tube was removed but not the protecting gauze.

Thirty-six hours later, the abdominal dressing, which up to this time had remained dry, became decidedly moist from the escape of urine.

The natural inference was that during the operation the ureter had been pinched, that pressure necrosis had resulted with either a fistulæ due to the loss of a portion of the ureter or that it had been bisected following the separation of the necrotic segment, or that violence of a similar character, causing the same results, had been done to the bladder.

A self-retaining catheter was employed and in course of a few days the gauze removed and in its stead a soft rubber drainage tube introduced. By connecting this tube with another, the urine was carried into a receiving bottle, so that the patient was not only thereby kept comfortable, but the amount of urine escaping was accurately determined.

Repeated measurements with comparisons showed the singular fact that the amount of urine collected in the bottle connected with the self-retaining catheter was just about equal to that contained in the one attached to the tube leading to the fistula.

Differentially this pointed to the defect as connected with the ureter; moreover at no time thereafter was it possible by injecting colored aseptic solutions into the bladder under considerable pressure, and several efforts were made, to demonstrate the presence of this fluid in the tract or at the orifice of the abdominal fistula. What then was more natural and reasonable than to conclude that the injury was connected with the ureters? Under anæsthesia the patient was examined with a sound in the bladder and both a straight and curved probe in the fistulous tract, but no sign of the defect discovered.

Somewhat later the patient was again anæsthetized with a view of a thorough exposure of the floor of the fistula, disclosure of the distal end of the injured ureter and the performance of a possible ureteroplasty.

In dilating the tract, however, which was attempted cautiously and slowly a rent was made in the bladder, the wall of which was still found to be very thin.

This accident, however, did not prevent a further search for the

supposed patulous ureter, which in the dense connective tissue was not located, and which in all probability owing to the myoma had been disturbed from its normal position, but it decided the operator to first repair the rent in the bladder and do the plastic operation later. After the bladder was closed the fistula was highly packed with medicated gauze, and a self-retaining catheter again introduced into the bladder.

Thereafter no urine escaped from the fistula, but instead healthy granulations sprang up and it was soon closed.

This case demonstrates that the usual tests in determining whether urine escaping through an abdominal fistula is from the ureter or bladder are not always reliable and consequently do not possess the differential diagnostic value that the books teach. It occurred just before the Harris segregar was presented to the public; but whether it would have shed any light on the subject, depends entirely upon the location of the defect.

Ureteral catheterization was not employed because the evidence was apparently so overwhelmingly in favor of an ureteral defe[illegible] pro[illegible]at it was not considered worth while, nevertheless, in the light of [illegible]ust be aba[illegible]pened, it is evident that even though a catheter had been [illegible]rine obtained, the possibility of passing the instrume[illegible] dealing with it [illegible]s orifice of the proximal portion would have still[illegible]aged 31, consulted counting the value of the test. It would seem[illegible]r of the face at 55, a case in which it was impossible to arrive [illegible]and five sisters, whose existing pathologic conditions without subje[illegible] cal procedure which might have for its ob[illegible]aturally, and continued tiation of different structures. [illegible] she has not enjoyed good

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The natural inference was that during the operation the ureter had been pinched, that pressure necrosis had resulted with either a fistulæ due to the loss of a portion of the ureter or that it had been bisected following the separation of the necrotic segment, or that violence of a similar character, causing the same results, had been done to the bladder.

A self-retaining catheter was employed and in course of a few days the gauze removed and in its stead a soft rubber drainage tube introduced. By connecting this tube with another, the urine was carried into a receiving bottle, so that the patient was not only thereby kept comfortable, but the amount of urine escaping was accurately determined.

Repeated measurements with comparisons showed the singular fact that the amount of urine collected in the bottle connected with the self-retaining catheter was just about equal to that contained in the one attached to the tube leading to the fistula.

Differentially this pointed to the defect as connected with the ureter; moreover at no time thereafter was it possible by injecting colored aseptic solutions into the bladder under considerable pressure, and several efforts were made, to demonstrate the presence of this fluid in the tract or at the orifice of the abdominal fistula. What then was more natural and reasonable than to conclude that the injury was connected with the ureters? Under anæsthesia the patient was examined with a sound in the bladder and both a straight and curved probe in the fistulous tract, but no sign of the defect discovered.

Somewhat later the patient was again anæsthetized with a view of a thorough exposure of the floor of the fistula, disclosure of the distal end of the injured ureter and the performance of a possible ureteroplasty.

In dilating the tract, however, which was attempted cautiously and slowly a rent was made in the bladder, the wall of which was still found to be very thin.

This accident, however, did not prevent a further search for the

supposed patulous ureter, which in the dense connective tissue was not located, and which in all probability owing to the myoma had been disturbed from its normal position, but it decided the operator to first repair the rent in the bladder and do the plastic operation later. After the bladder was closed the fistula was highly packed with medicated gauze, and a self-retaining catheter again introduced into the bladder.

Thereafter no urine escaped from the fistula, but instead healthy granulations sprang up and it was soon closed.

This case demonstrates that the usual tests in determining whether urine escaping through an abdominal fistula is from the ureter or bladder are not always reliable and consequently do not possess the differential diagnostic value that the books teach. It occurred just before the Harris segregar was presented to the public; but whether it would have shed any light on the subject, depends entirely upon the location of the defect.

Ureteral catheterization was not employed because the evidence was apparently so overwhelmingly in favor of an ureteral defect that it was not considered worth while, nevertheless, in the light of ust be ab ned, it is evident that even though a catheter had been rine obtained, the possibility of passing the instrume f dealing with it s orifice of the proximal portion would have sti aged 31, consulted counting the value of the test. It would seem er of the face at 55, a case in which it was impossible to arrive and five sisters, whose existing pathologic conditions without subje cal procedure which might have for its o naturally, and continued tation of different structures. she has not enjoyed good

It is evident that the defect was in the of water, she fell, striking the rent produced by distending the ch caused a two-weeks' sickthat it must have been provided with om this accident. Since the closed the orifice when the vicus was ar and painful. Was married that this medical condition was nd was sick for two weeks. Her retention of the bladder wall in cons date, labor being normal. Has atomy caused by the growth of ree years ago had bladder trouble,

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e, is constipated, sometimes men- s twice a month, with pain and wer part of abdomen most of the harp. The bladder is very irritable nths she had noticed that the abdo-

TREATMENT OF ADHERENT CYSTS OF THE OVARY AND BROAD LIGAMENT BY INCISION AND DRAINAGE: REPORT OF A CASE.*

By J. E. Allaben, M.D., Rockford, Ill.,
Surgeon to St. Anthony Hospital, Rockford, Illinois.

One of the most frequent causes for invading the peritonæal cavity to-day is the removal of cysts of the ovary and broad ligament; and probably the most common and serious complication is the adhesion of these cysts to surrounding structures. The advent of aseptic surgery has rendered entrance to the abdominal cavity a comparatively harmless procedure, and as a result of this fact the study of the art of diagnosis has been greatly stimulated, so that tumors in this region are discovered much earlier than in former times, surgical procedure for [illegible] sooner undertaken, and consequently adhesions much le[illegible]y conn[illegible]rm an obstructive element in their management.

receiving bo[illegible]

[illegible]ortable, but the [illegible] at the present time are sufficiently frequent to [illegible]termined. [illegible]on of their management of much importance.

Repeated measureme[illegible] cases of tumors with extensive adhesions are: [illegible]inal obstruction, and adhesions is one of the that the amount of urine c[illegible]e causation of these conditions by prolongretaining catheter was just [illegible]leaving raw surfaces behind after separatached to the tube leading to [illegible]

Differentially this pointed t[illegible]l tumors are so extensive and so organmoreover at no time thereafter[illegible]l is almost impossible. In other cases aseptic solutions into the bladder[illegible]ation consists in the proper manageeral efforts were made, to demons[illegible]r may become entirely separated from tract or at the orifice of the abdo[illegible]r growth be maintained by the formanatural and reasonable than to conc[illegible]ive adhesions. Such are the wellwith the ureters? Under anæsthesia[illegible] sound in the bladder and both a straig[illegible] covering a cyst protects it from lous tract, but no sign of the defect di[illegible]s epithelium is destroyed and at-

Somewhat later the patient was ag[illegible]e cyst and surrounding tissues. a thorough exposure of the floor of th[illegible]ose soon become more and more end of the injured ureter and the pe[illegible]to separate them, and in attempt- plasty. [illegible]eter, or large blood-vessels may

In dilating the tract, however, whic[illegible] cannot be determined in any slowly a rent was made in the bladder, t[illegible] to be very thin.

This accident, however, did not prev

[illegible]ical Association, Asheville, N. C.,

particular case until the abdomen is opened, and next to the *size* of the tumor the extent of adhesions is the most important consideration in the prognosis; in small and medium-sized tumors it is the *most* important consideration.

Where adhesions are of recent formation they may be readily stripped off with the fingers; in some cases where they are more organized, a differentiation may be effected with the fingers between the cyst and the involved organ, and the tough bands severed with scissors or scalpel. In other cases, the adhesions have caused so perfect an amalgamation that differentiation is impossible. In such cases a portion of the outer cyst wall may be left attached to the involved organ and the remaining portion of the cyst removed, as illustrated in a case of Dr. Howard Kelly* where a portion of the cyst was left behind as large as a nightcap.

Lastly, there are cases where the walls of the cyst are so perfectly incorporated with the adjacent peritonæum and so adherent to various organs that none of these methods are consistent with a probable maintenance of life, and the idea of removing the cyst must be abandoned and some other method of treatment pursued.

This condition of things and a successful way of dealing with it is illustrated in the following case: Mrs. S. E. B., aged 31, consulted me December 4, 1899. Her father died of cancer of the face at 55, mother living, aged 61. Has had eight brothers and five sisters, whose history has no special bearing on this case.

The patient menstruated at 12 or 13, naturally, and continued regular until 15 years old, since which time she has not enjoyed good health. At this age, while carrying a tub of water, she fell, striking her abdomen on the edge of the tub, which caused a two-weeks' sickness. She thinks her trouble dates from this accident. Since the accident. menstruation has been irregular and painful. Was married at 18; a year later had a miscarriage and was sick for two weeks. Her only child was born a year from this date, labor being normal. Has had more or less womb trouble. Three years ago had bladder trouble, which was accompanied with a yellow vaginal discharge. About this time she was curetted by a physician at her home, without improvement. She has a fair appetite, is constipated, sometimes menstruates every six weeks, sometimes twice a month, with pain and increased flow. Has pain in the lower part of abdomen most of the time—sometimes the pain is very sharp. The bladder is very irritable and sleep is disturbed. For six months she had noticed that the abdo-

* "Operative Gynæcology," Kelly, Vol. 2, p. 298.

men was enlarging. She seeks relief from pain. Physical examination: the lower part of the abdomen bulges forward as in pregnancy of five or six months, but most prominent on the left side. The tumor is dull on percussion, elastic and painful to pressure. Vaginal examination reveals the uterus crowded up against the pelvic bones and toward the right. The pelvis is filled with an elastic tumor. Pressure through the vagina produces pain. The tubes and ovaries cannot be palpated. The uterus is so misplaced that the cervix cannot be inspected through an ordinary speculum. A probe enters the uterus to the depth of three inches.

Diagnosis: Adherent ovarian or parovarian cyst of left side. Operation December 11, 1899, at St. Anthony's Hospital. The abdomen was opened in the median line revealing a characteristic parovarian cyst about the size of a man's head. The cyst was punctured with an ovarian trocar and about two quarts of straw-colored fluid drawn off. The opening in the cyst was enlarged and about as much more fluid was poured out by turning the patient upon the side and by mopping out with gauze sponges. There were extensive organized adhesions of the cyst wall to numerous coils of the ileum, to the vertebral peritonæum, the rectum and to the floor and left side of the pelvis. An attempt was made to peel off the outer coat of the cyst from the intestines, resulting in making a rent into one of the coils which was closed with a double row of running Lembert suture of fine silk. Considerable time was spent in an effort to enucleate the cyst, but the cyst-walls were so adherent to the broad ligament and the surrounding peritonæal surfaces that farther efforts at enucleation were abandoned. The cyst was then drawn out as far as possible into the abdominal wound and stitched to the peritonæum in the lower angle so as to completely shut out the peritonæal cavity from the cyst cavity. The addominal wound was closed to within two inches of the lower angle, a rubber drainage tube having first been passed through the bottom of the cyst and out of the vagina. A few strips of gauze were passed to the bottom of the cyst and allowed to protrude through the abdominal wound.

Save for a rather rapid pulse for the first three or four days, convalescence was uneventful. After the third day the dressings were changed daily, fresh gauze being carried into the cyst each time. The cyst walls collapsed and the cavity filled rapidly by granulation. Five weeks after the operation she left the hospital with a sinus four inches deep and about the size of a uterine probe. This closed completely February 5, eight weeks from the date of operation.

After the operation the patient's health improved very much; she was free from pain and other unpleasant symptoms for four months, when she began to suffer pain on the opposite side, and vaginal examination revealed a tumor of the right ovary. A second cœliotomy was performed six months after the first operation through an incision two inches to the right of the old cicatrix and a multilocular ovarian cyst about the size of two fists was removed without difficulty.

After completing this operation I made an examination of the site of the first tumor, but there was nothing present to indicate the existence of a former cyst. The matting of the intestines had entirely disappeared, and even the cyst walls had been entirely absorbed, leaving the parietal peritonæum free and smooth at the point where the cyst walls had been drawn out of the abdominal wound. Recovery from the second operation was smooth and the patient has enjoyed good health since with restoration of a normal menstrual function. In this management of adherent cysts the peritonæal cavity is completely shut out from the cyst and the outside world, and the suppurative process in the cyst walls is a conservative element.

Parovarian cysts are composed of an outer fibrous wall lined with ciliated epithelium or flattened non-ciliated epithelium.

Cystic adenoma, the historical ovarian tumor, consists of a fibrous stroma in which are tubular follicles, lined with ciliated epithelium, or in some cases there are papillary outgrowths from the stroma covered with ciliated epithelium. The admission of pyogenic germs through the medium of air to the lining membrane induces a suppuration and destroys the secreting epithelial cells and in their stead is implanting a granulating surface. The walls collapse against each other, and the cyst cavity is obliterated through the various processes of healing by second intention, viz.: granulation, fibrilization, and ultimately connective or cicatricial tissue formation.

The processes by which adhesions are formed about tumors in the peritonæal cavity are such as obtain in ordinary active inflammation caused by mechanical irritation, viz.: Escape of leucocytes through injured veins and capillaries and proliferation of connective-tissue cells. The character of the exudate, *i. e.*, serous, fibrinous suppurative, etc., depends upon the degree of irritation caused by pressure and upon the absence or presence of bacteria. Adhesions of a tumor to contiguous tissues and viscera continues so long as pressure irritation continues; but if by any method of treatment the exciting cause is removed, processes directly opposite to those causing adhesions are at once set in action by Nature, and instead of building up there occurs a tearing

down of the adhesions through the processes of liquefaction and absorption of exudates.

The extent to which this can be carried is illustrated in the case above recited, and is also demonstrated by operative work in the peritonæal cavity of animals.

For example, if we resect a portion of intestine of a dog and examine the tissues a week later, we may find extensive matting of the intestines and omentum to each other and to the parietal peritonæum, but an examination of the same tissues several months later usually reveals a complete clearing away of the adhesions induced by our manipulations. In the treatment of adherent cysts of the ovary and broad ligament, it would seem therefore, that our efforts to release adhesions and remove cysts have been prosecuted to an extent unjustifiable and unnecessary in many cases.

By incising, emptying and draining the cyst cavity we remove the cause exciting adhesions and induce conditions that ultimately work a permanent cure and at the same time does not expose the patient to conditions prejudicial to life.

This treatment of cystic tumors is applicable to most other abdominal cysts such as cysts of the pancreas and is merely applying the principle we adopt when we stitch the gall-bladder to the peritonæum and drain it for empyæma or hydrops of this organ and, if it were practised more frequently in the treatment of cysts of the ovary and broad ligament, some lives might be saved which now succumb to shock, sepsis or ileus due to prolonged effort to release adhesions.

CURAGE; TWO ADVANTAGES IT POSSESSES OVER CURETTAGE.*

By Frank A. Stahl, M.D., Chicago, Ill.,
Instructor of Obstetrics, Rush Medical College.

When referring before this Society to curage, the use of the finger to remove retained secundines in early labors, it has always been my pleasure to meet with a discussion overflowing with warm appreciation though not entirely of an affirmative nature. But when I compare the heated negative sentiments extended curage some few years ago with the favorable and commendatory tone with which its use is regarded to-day, both in instruction and in published reports, likewise at home and abroad, I am constrained to believe that experience has shown that digital curage is not the wicked means for removal of secundines once so positively affirmed.

Budin has recently added his voice to those favoring curage (*Progres Med.*, September 17, 1898); Lantos (in the *Monatschrift für Geb. u. Gyn.*, Band IX., Heft 5) speaks of "300 cases in the first three months of pregnancy. In 246 cases the uterus was emptied with the finger, 4 with the forceps, and in 50 with the curette. One of these cases ended fatally from septic infection. This was the only fatal case in 300. As a rule, the more rarely an instrument or finger is introduced within the uterine cavity, the better for the patient. The finger is preferable in recent cases of abortion wherever it can be introduced. It is always better to curette or to empty the uterus with the finger rather than to employ intra-uterine douches."

In presenting the following cases it is done not only to reiterate that the finger is advantageous where it can be introduced but to show two special and distinct advantages which the finger possesses over the curette.

1. The superior advantage of the finger in recognizing foreign bodies.

2. The superior shelling out intact of the secundines advantage of the finger, instead of the usual morselling by the curette and forceps. Both of these advantages are of much importance.

Case I.—From an eight- to ten-week abortion where the cause is plain. When called to the case there had been chills, fever, and hæmorrhage, otherwise patient would have tried to finish without the doctor's assistance. Chloroformed, cervix permitted the finger to slip

* Read before the Chicago Gynæcological Society, June 15, 1900.

up into cavity after a little persuasion, easily shelled out the secundines (Fig. 2) quite intact. The important circumstance to be recognized and corrected, of more importance even than the retained secundines, was the bit of sponge, the broken-off tip of the sponge-tent used to induce the abortion. While pealing off the secundines, the finger felt the foreign body; a second touch interpreted its nature. Even after abdominal pressure had expressed the secundines, it required two attempts with the finger to bring the sponge-remnant away, its mucilage added to its slipperiness; pressure alone made it but slip from side



FIG. 2.—Secundines from Case I, an eight to tenth week abortion, removed with finger.
a. Tip of sponge tent used to induce the abortion.
b. Secundines intact.

to side and not outward. It is hardly necessary to speculate what the results would have been in this case had the operator rested under the deception conveyed in the complete secundines alone. An intrauterine douche with carbolic acid was given, subsequently followed by vaginal douches; patient up and about in three days.

Case II.—(Figs. 3 and 4.) Some one had introduced a No. 4 laminaria tent. Patient taken with great pain and some hæmorrhage. When the attendant wished to remove the tent, the tent could not be found. The explanation is simple. The tent had slipped up into the cavity, the inferior cervix closing over its lower end. Still hoping it would come away altogether, the attendant waited, but pains, rigors,

and hæmorrhage causing alarm, assistance was sent for. When I arrived the attentant was not there, but I could easily gather what had been intended. Chloroformed, the tip of what must be a tent could be felt by pressure on the cervix below, I did not press on the fundus, as in a Hoenning, for theoretically there must be danger of the tent's edge cutting the uterine walls, possibly through and through. With



FIG. 3.—*A.* Oval sac from Case II., serotinal aspect, tenth week.

B. Laminaria tent, cause of abortion, had slipped up so as to be covered by the cervix; attendant alarmed, dropped the case.

C. Decidual and oval cast from Case III., of seven to eight weeks. Cause of abortion not ascertained.

the finger tip the cervix was easily opened, for the canal was well dilated and the tent removed by means of a dressing forceps. Thereafter the partially loosened oval cast was completely shelled off and expressed, followed by a carbolic uterine douche; vaginal douches subsequently. Fourth day after, patient got up and about.

Case III.—This is a decidual cast, partially loose when I was called; with finger completed the loosening; spontaneous delivery.

Aside from the arguments against the finger that it is unsurgical and septic, and which experience and time have shown "not proven,"

it is claimed (1) that the tip of the finger cannot reach the fundus and remove all the secundines; (2) curage, it is claimed, is more painful than curettage. Ruling out the anatomically or physically defective hand and finger of an operator, I have found in discussion that where this first objection has held that the finger cannot reach the fundus, the



FIG. 4.—*A*. Oval sac from Case II., laid open to show.
1. Fetus.
2. Cord.
3. Intestine, hernial, through umbilical opening.
4. Placenta, amniotic side.
5. Placenta, serotinal side.
B. Laminaria tent causing abortion.
B.¹ Laminaria tent, original size.
C. Decidual and oval cast from Case III., of seven to eight weeks, laid open and shows (1) amorphous mass representing remnant of fœtal development.

index finger had been made use of. Now, I admit and have so maintained, that the index finger is often too short of reach, and unreliable. I tried the index finger in my first case, and because it failed me I changed to my middle finger, for the middle finger is longer, stronger, and swivels better. I introduce my half hand into the vagina and but one finger, the middle finger, into the uterine cavity, receiving the uterus as a ballooned finger tip over the middle finger, and between

the index finger against the anterior lip before, and the fourth and little fingers against the posterior lip behind. Thus the uterus swivels upon the middle finger as an atlas, controlled and inclined forward or backward by the fingers encircling the cervix without. Abdominal pressure is made as necessary with the other hand.

I have yet to meet a uterus whose fundus I cannot reach and whose cavity I have been compelled to curage a second time for retention, or where a placental polyp has subsequently developed. This the index finger cannot accomplish so well, as a rule; the middle finger can.



FIG. 5.—Illustration showing middle finger method of digital curage.

The second objection that curage is more painful than curettage. It should not be so especially if chloroform be given. Even were it so, the security of knowing that the cavity is clear and that all danger has been removed, amply repays for the slight transient discomfort produced by the introduction of the half hand into the vagina. It is only a clumsy operator who is brutal, nor is such awkwardness a feature of digital manipulation alone, for a clumsily-handled instrument is far more efficacious of inflicting pain than is the finger. Moreover, I have yet to meet the patient who would not gladly lend to tons of sweet-scented hyperbole rather than one iota towards an ounce of death certificates.

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EDITORIAL.

GYNÆCOLOGICAL OPERATIONS UPON THE INSANE.

Another report of the results of gynæcological operations upon the insane of the London (Canada) Asylum is given by Dr. R. M. Bucke in the *Medical News*. Up to the present time 256 women have been examined and in 219 of these structural disease of the uterus, ovaries or adnexa has been found. Of these cases 200 have been operated upon, the sum total of different operations done being 362. Four deaths have resulted but in almost all the other cases there has been improvement or restoration of bodily health. As to the mental effect, 83 women have recovered from their insanity and 45 others have markedly improved, while in 68 there has been, as yet, no change. Of course some cases recently operated on may improve or recover and some that have improved may eventually recover.

These figures are the more remarkable when we consider the results of other operations upon the mental condition of these patients. Out of 63 cases operated upon for extra-gynæcological lesions (mostly herniæ or new growths) there was but one mental recovery. Classify-

ing the 196 gynæcological cases, we find that by far the best mental results were attained in those cases in which diseased conditions of the tubes and ovaries were rectified, next those in whom disease of the uterus, body or cervix was cured or malpositions of the uterus or adnexa corrected, while the mental condition was less frequently influenced by the removal of uterine tumors and much less by the repair of torn perinæa, fistulæ, etc. From these observations we may ascribe to these various lesions corresponding degrees of influence in the production of mental disease. The general statistics of the asylum, moreover, show the influence of this new factor in treatment; the average recovery rate, including cases improved, based upon the admissions, was in the female halls during the four years preceding the institution of this work 35 per cent., and in the four years during which this work has been done 51 per cent.; while in the male halls there was very slight gain during the second period over the first.

The report is a very frank and straightforward brief record of this interesting work. On reading it, one is impressed with the idea that these patients are not regarded as material for experiment but as subjects to be benefited first physically, afterwards mentally if may be, by operation. In no case is the operation done *for insanity*. Physically the patients are regarded precisely as if they were sane and, if found to be affected, are treated in the same way and to the same end, *i.e.*, the relief of physical suffering, whether it is thought that the operation will affect their mental condition or not. Sometimes it is known that it will not; at other times it is regarded as the first step toward restoration to general health. But the operation is done in every case on account of physical indications; if an improved mental condition result, so much the better.

These facts, it seems to us, are a sufficient answer to any who may have felt that the work might partake somewhat of the character of experiment upon irresponsible subjects. We should say that in the average insane asylum, where the staff would be quite likely to have comparatively little practical surgical knowledge, the tendency would be to neglect surgical indications rather than to operate indiscriminately and experimentally. Certain important points are neglected in the report—the kind and duration of the insanity thus favorably affected and the prognosis without operation; moreover statistics are deceptive things; but, making all due allowances, it appears that very excellent results have been attained, which it would be well for those to keep in mind who have to do with cases of insanity.

A. D. C.

A GENEROUS OFFER.

We hail with much joy a charity at last that aims to benefit physicians. Recently a cremation company, operating in the neighborhood of this city, "in recognition of the support which our cause has received from physicians generally"—we quote from the certificate—has generously issued a large number of certificates to physicians, entitling them or any member of their immediate families to free cremation at any time within ten years. The certificate itself is a thing of considerable beauty, printed in sable and gules and bearing upon its field a funeral urn, couchant, vert, and is suitable to frame and hang up alongside one's diploma and marriage certificate. No doubt there will be some to cavil at the phrase about support received from physicians, but we think that no more than moral support is implied; we question very much whether any physician for the sake of ingratiating himself with a cremation company would deliberately increase his death-rate in order to furnish them with material. Other critical ones might view the offer in the light of an advertisement but we feel sure that between the lines we can read charity writ large; we are certain that this kind company has recognized the increasing poverty of the profession; has observed the imminent dissolution of many of its members from starvation or from the nervous wear and tear incident to trying to make ten dollars' worth of bad accounts buy one dollar's worth of groceries and has noted that the chief obstacle to a general euthanasia is the question of how to meet the funeral expenses. The company does not express the hope that the recipients of their certificates will hasten to avail themselves of the generous offer but this is doubtless only modesty. There is no reason why any doctor should hesitate to take advantage of this—the first charity open to his kind, what we might indeed call a cremation dispensary; moreover, if he have any disinclination to personal incineration the certificate entitles him to the privilege of trying it on the dog, as our theatrical friends say, *i.e.*, upon whatever member of his family he can most conveniently spare. Doubtless it will be a novel sensation to the members of a profession that has been accustomed heretofore to give so much for nothing to actually get something for nothing; and we shall look for a large and encouraging death-rate in the near future among physicians and their immediate families.

A. D. C.

REVIEW.

Progressive Medicine: A Quarterly Digest of Advances, Discoveries, and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., assisted by Charles Adams Holder, M.D., Volume II., June, 1900. Lea Brothers & Co., Philadelphia and New York.

The second volume of the current year of *Progressive Medicine* has for the subject of its first section Surgery of the Abdomen, including Hernia. Several interesting cases of gastric implication and gastrorrhaphy for gastric dilatation and gastroptosis are reported, in which very excellent results were secured. Several pages are devoted to operations for gastric ulcer, particularly after perforation; the importance of avoiding obscuration of the symptoms by the use of opiates and the necessity for immediate operation are emphasized; the results of early operation show, of course, much better results as to mortality, but also give a much more favorable convalescence. All the vexed questions regarding appendicitis are discussed, but they appear still to remain vexed; we believe, however, that in an individual case an experienced surgeon would be more likely to make the necessary decisions wisely than would appear probable from a surgical symposium upon the subject. There is an account of the Bassini operation in detail as done by Bassini himself with a number of cuts illustrative of the various steps of the operation as done by Bull and Coley; also, a long résumé of Bloodgood's very extensive contribution to the subject. Plastic operations upon the colon are extensively reviewed and well illustrated; also, the diagnosis of abdominal tumors. There are a number of interesting radiographs showing calculi in the various abdominal organs. The surgery of the liver, operations for repair of the ureters, and the surgical treatment of aneurism of the abdominal aorta are also discussed.

In the section upon Gynæcology, Stratz's treatment of pelvic peritonitis is reviewed, and though some excellent results have been attained, there is no likelihood that his methods will in many cases displace other modes of treatment. Other subjects are the treatment of inflammatory pelvic exudates by compression and posture, the ultimate results in the operative treatment of retroversio-flexio-uteri and Kelly's operation for the repair of lacerated perinæum, amply illustrated;

especially there are long discussions upon the cause and significance of hæmorrhage in cases of uterine myoma, upon the occurrence of streptococcus pyogenes in gynæcological diseases and upon moveable kidney in women.

The next section takes up first various methods of blood examination though no very marked advances have been made in this direction during the past year. The different blood diseases and disorders of metabolism, diabetes, diabetes insipidus, glycosuria, gout, myxœdema. exophthalmic goitre, etc., are treated of at length.

The fourth section upon Ophthalmology is largely made up of short articles. There appears still to be a good deal to say about conjunctivitis and several interesting pages are devoted to corneal ulcer. Among diseases of the retina, the attempts to cure detachment of that organ make interesting reading, though no very certain results have as yet been attained, it being hard to differentiate in the small percentage of recoveries cured cases from those that spontaneously got well. There are good pages upon optic neuritis and atrophy and upon the toxic amblyopias. In the treatment of glaucoma, "resection of the sympathetic," introduced by Jonnesco is spoken of as a promising experiment; its immediate results seem to be very good though it is hard to say whether they will be permanent. The volume as a whole is a worthy member of this excellent series.

TRANSACTIONS OF THE PHILADELPHIA OBSTETRICAL SOCIETY.

Stated Meeting, October 4, 1900.

The *President,* J. C. DACOSTA, M.D., in the Chair.

Varicose Veins of the Vulva complicating Pregnancy; Dermoid Cysts.

BY WILMER KRUSEN, M.D.

(See page 304.)

DISCUSSION.

Dr. B. F. BAER: Varicosity of the veins of the vulva and vagina during pregnancy should always be a matter of solicitude on the part of the attending physician. I have never met with a case in which rupture of these veins during labor occurred, but I have been made anxious in some cases because of their great distention. I do just now recall a case of large tumor of the labium about which I was once consulted, in which the history indicated rupture of a vein during labor. The time at which I saw the patient was some weeks after the labor, and suppuration was present. Incision showed pus and blood-clot contents.

As to treatment in the presence of rupture during labor unless there were evidence of great hæmorrhage, I would favor the old plan of compression, etc., rather than incision and ligation of the bleeding veins. Ligation would probably control the bleeding, but it seems to me that the old teaching, of compression, rest and waiting, within reasonable limits, of course, is the better. If suppuration occurs, open and treat as a labial abscess. There is then less danger from sepsis and possibly, also, from hæmorrhage.

The question which Dr. Krusen has brought up in presentation of the dermoid cyst is an important one. Some years ago this form of tumor was considered rare, but after abdominal and pelvic operations were performed more frequently it was found that dermoid elements were not uncommon. That three consecutive cases of this character

were met with in the practice of one physician shows that it is not an uncommon disease.

The removal of the dermoid tumor without spilling the contents into the abdominal and pelvic cavities is of practical interest. It used to be considered a very dangerous thing to rupture a dermoid cyst during operation, because it was thought the contents were more irritating than were the contents of ordinary ovarian tumors. My early experience led me to doubt this. While it is advisable to avoid soiling



Dermoid Cyst.

the tissues involved it is often impossible to do so, and I have on some occasions ruptured a dermoid as well as an ordinary ovarian tumor during operation, spilling the fluid into the peritonæal cavity without harm. This has convinced me that rupture of the cyst is of little moment if proper care is taken to cleanse the parts by irrigation or sponging before closing the incision.

My first case of dermoid tumor, operated upon probably twenty years ago, was a girl twenty-two years of age. She was suffering from peritonitis from some injury. Operation did not prevent her death,

twenty-four hours later. The result here was not from the spilling of the cyst contents, but must have been due to some accidental cause. These tumors when small are often found to be adherent, and this seemed to confirm the belief that they were more susceptible. But I think the explanation may be found in the fact that these growths are more solid and heavier, and hence when small are more likely to become incarcerated in the pelvis, and are injured and inflamed from pressure and violence in various ways.

Dr. E. E. MONTGOMERY: I have not had the pleasure of hearing Dr. Krusen's paper, and therefore am unable to reply to the points to which he wished particular attention directed.

The subject of dermoids and the character of their contents is interesting, and I think while it is true that these growths in many cases do not prove irritating when the contents are spilled into the peritonæal cavity and immediately removed, yet their contents are certainly more irritating than those of other ovarian growths. I have seen a number of cases of rupture during operation, and in the majority of cases, when the fluid was immediately and thoroughly removed, the patient suffered no inconvenience.

In regard to the presence of calcareous material and bone being evidence of age, I removed a double dermoid cyst from a child eleven years old, and in the cyst there were a great many teeth and large portions of bony plates with a portion resembling the half of the upper jaw; so, the formation of bone does not necessarily indicate long-existing growth. It is evident, these are cases in which irritation has been set up in an ovum with an anomalous development. As a result we have the formation of teeth, hair, sebaceous glands and structure resembling mammary gland, sometimes brain tissue; indeed, all the various tissues of the body, but in disorder and disarrangement.

Dr. R. C. NORRIS: I have seen a great many cases of varicose veins of the vulva in multiparæ, and used to be alarmed for fear of the occurrence of rupture. I have never seen a hæmatoma form as the result of varicose veins, and I believe it is a fact that hæmatoma of the vulva rarely has a preceding history of varicose veins. When rupture occurs it is due to disease of the walls of the veins in women who may not have varicose veins. That condition is rare. I have had two such cases in the Preston Retreat. If the tumor is so large as an orange the wisest course is to open it, and with an assistant to control hæmorrhage by pressure while one undersews the veins with a continuous catgut suture there is little difficulty in controlling the hæmorrhage.

The question of the infectious character of the contents of dermoid

cysts is also very interesting. I have instinctively felt that their contents are more dangerous than that of the ordinary ovarian tumor. This notion may be simply a relic of what was taught us about these tumors; but it has seemed to me, in the cases I have operated on, that the adhesions have been more widespread, and the contents of the tumor oftentimes have been of a cheesy or even purulent character, which with their epithelial origin, would explain why they are more prone to take on active infectious changes. While we all, I believe, do our work now with the intention and desire not to spill into the abdominal cavity any fluid if we can possibly help it, and take the precaution to protect the peritonæal cavity with abundant gauze sponges when operating for dermoid cysts, it is wise for the operator to take especial care not to let such fluids come in contact with the peritonæal cavity.

The mortality of operations for dermoid cysts is relatively higher than the mortality for the removal of ordinary ovarian cysts, which again would indicate that the contents and the character of the tissue of dermoids should be considered more dangerous.

Dr. J. M. FISHER: The subject of varicose veins has called to my mind a case which came to me several years ago, in which I had made a mistaken diagnosis. The patient was sent to me by her physician with a note, stating that she had a labial hernia, and wishing me to refer her to some instrument-maker to have a truss applied. I confirmed the doctor's diagnosis after making a hasty examination of the patient under cover, omitting an inspection of the parts. Later, upon making an inspection, I found the condition one of enlarged varicose veins of the one labium. This simply illustrates the necessity of making an inspection of all cases, no matter how simple they appear.

There is one point upon which Dr. Krusen did not dwell, bearing upon the subject of these varicosities, that is the possibility of abortion in connection with the treatment by compresses and bandaging. I remember Professor Parvin's reference to this in his lectures on obstetrics. I think in this connection it is well to bear in mind the character of the pelvic circulation. We all know the valveless condition of the pelvic veins, and the extraordinary dilatation that takes place on the advent of pregnancy, causing a slowing of the blood current in the external parts; and this in connection with the intermittent venous tension as a result of the rhythmic contractions of the uterus, coupled with individual differences in the tone of the vessel walls, no doubt are the prime factors in the production of varices. The application of compresses or bandages may exercise a contracting tendency in the venous tension of the uterus, and thus predispose to abortion.

Dr. JOHN C. DA COSTA: Dr. Montgomery said that growth of bone was not an evidence of long continued growth of tumor; I would like to ask him whether these dermoid cysts of which he spoke are always of the slow growth. I have had two cases within a couple of years which would rather indicate the contrary. In one I removed a dermoid about eight weeks after the woman was delievered, which was about 6x10. It was ruptured in removal, but there were no evil effects from it. There was hair, and bone. There seemed to be the whole of an upper jaw studded with teeth. The doctor who confined the woman told me that he could not feel the mass after her confinement. The woman told me that she had felt four weeks before a lump no larger than a big orange. In another case I removed dermoids from each side of a young girl sixteen years old. The growth appeared to be a rapid one. Everything in the abdomen was studded with what to me seemed to be papilloma—uterus, tubes, ovaries, omentum, intestines and peritonæum. I thought the case one of malignant papilloma, which Bland-Sutton says is sometimes associated with dermoid cysts.

Dr. E. E. MONTGOMERY: I do not see why if we accept the theory that this is simply an ovum which has gone wrong, the development of these anomalous conditions may not take place as rapidly as in the fecundated ovum, which goes right.

Dr. KRUSEN, closing: I was laboring under the impression that the subject of presentation of specimens was not discussable; I therefore apologize for not writing up the case and presenting the whole subject. The tumor which I presented was simply to show the large mass of hair. There was nothing unique about it. I am still of the opinion that the contents of these tumors, if ruptured, are much more irritating than that of any other variety. This opinion was emphasized in the case which I related briefly in which the tumor held two pints of fluid, in a very stout woman, associated with large fibroid tumor.

The specimen presented is an ovarian dermoid removed a few days ago. The patient was an unmarried woman aged about 38 years, and the tumor had been present for fifteen years. Its growth was very slow, and it gave rise to very slight symptoms until within the past year, when by its pressure some irritation was produced. The growth was about the size of a cocoanut and was slightly adherent. On section it was found to contain about a pint of sebaceous fluid and the large mass of red hair which is apparent in the specimen. Whatever theory we may accept as to the origin of these growths, they are always peculiarly interesting, and often present practical difficulties in their removal in

order to prevent rupture and consequent irritation or infection of the peritonæal cavity. The photograph presented gives an excellent idea of the character of the neoplasm.

The Consideration of the Methods of Hæmostasis in Abdominal Surgery.

By E. E. Montgomery, M.D.

(See page 301.)

Discussion.

Dr. B. F. Baer: Hæmostasis in pelvic and abdominal surgery is of the greatest moment, and although the subject may seem trite, Dr. Montgomery deserves the thanks of the society for his paper.

Danger from hæmorrhage is always imminent. I believe that occult hæmorrhage is the most frequent cause of death following abdominal section, and I have been teaching for a long time that the surgeon is not justified in leaving his patient after abdominal section for at least three or four hours. The patient may not die immediately from the hæmorrhage, but she may die a few days later from sepsis, due to inability to recuperate promptly because of the loss of blood. I am speaking, not from my own experience only, but from my knowledge of the experience of others as well. When pallor and a rapid pulse are observed a diagnosis of shock is usually made and the surgeon is anxious, but often does nothing more than to stimulate the patient and remain anxious for a few hours longer, hoping that she may rally; and if she does rally, his fears are quieted and the golden moment may be lost. I long ago learned that symptoms of shock meant hæmorrhage, and I formulated the following dictum for my own guidance: "When in doubt, reopen." When there are symptoms of hæmorrhage the wound must be reopened."

The fault lies not in the ligature material, but rather in the oversight and hurry of the operator. We may not have met with the accident in a hundred cases, or in a year; a feeling of security results and we may grow a little careless. Only three weeks ago in operating for the removal of an ovarian tumor I found the appendix diseased and removed it. I had a number of engagements that day, and left the patient soon after the operation. Three hours afterward, on inquiry

through the telephone, I was informed that she was in good condition, and I started to catch a train, but decided to visit the patient on the way. I believe that decision saved her life, for I at once recognized that she was not in good condition. Although the pulse was only 110, she was pale and a little dazed. Those in immediate attendance thought I was too anxious, that there was no cause for alarm. Fifteen minutes later her pulse was 130. I reopened the abdomen and found the pelvis full of dark, venous blood. The broad ligament pedicles were secure. There was oozing from the meso-appendix—a condition I never had met with. This is merely another instance, showing the necessity of always being on the alert to guard against hæmorrhage. The patient might have recovered if I had not reopened the incision, but I doubt it. I do know that I have felt happy ever since that I made the visit and thus saved the patient's life.

I lost a patient last winter under peculiar circumstances, which I will briefly relate. She was doing particularly well, with a strong, quiet pulse of not more than 80, and a practically normal temperature, until the *fourth day,* when she was seized with gastralgia, or hepatic colic, from which she had suffered at odd intervals for years, and of which she had said nothing. The contortions which were indulged in before she got relief were violent. I had seen the patient in the evening and left her with a strong pulse of 90, and without a thought of the disaster that was soon to follow. I was called at five the next morning and found her entirely pulseless, and she was dead in ten minutes! Autopsy revealed the pelvis and lower abdomen full of blood, showing that she had died from hæmorrhage four days after the operation. An old clot was found which doubtless had been dislodged by the violence of her twisting movements during the pain. This clot had probably resulted from a venous oozing which had not been enough to affect her pulse, and if it had not been for the attack of colic it would never have been discovered. In dislodging the clot some larger veins were opened and the fatal hæmorrhage resulted.

This experience has been a nightmare to me ever since it occurred, for it proved that the period when the patient is absolutely safe is an uncertain one.

I have not had any experience with the angiotribe, but from what we have learned in the paper just read, and from other sources, it is probably more unsafe as a hæmostatic than the ligature.

Dr. R. C. Norris: I agree with Dr. Baer that hæmorrhage in abdominal operations is one of the most interesting and practical subjects with which the surgeon has to deal. When we consider the mortality

of hæmorrhage following laparotomises due to slipping of a ligature followed by sudden death, and besides to incomplete hæmostasis with oozing of small quantities of blood which favors the development of peritonitis, the subject under discussion is one of the greatest practical importance. No more instructive chapter in gynæcology could be written for the operator of small experience than an account, by the men of larger experience, of the number of cases lost from hæmorrhage.

I remember some years ago losing a case by slipping of the ligature, and immediately after a meeting of this society I happened to be in conversation on this subject with six or eight members, and I was appalled to hear each man detail the cases that he had lost in this way.

It has been my experience to lose two cases, one five years after the other, and the chagrin and disappointment of the second case was even greater than that which followed the first.

I have awaited with great interest the reports detailing the results of the angiotribe. I have not used the instrument myself, because I have not been convinced of its real practical value. Dr. Skene's electro-hæmostatic forceps, when improved so as to be readily sterilized, is an attractive instrument, which I felt was more likely to prove of value than the angiotribe which only crushes the tissue. Such a combination of cautery and crushing instrument would seem to be of particular advantage in vaginal hysterectomy for carcinoma. I believe the only safe course in most abdominal operations is to pick up the orifice of the cut blood vessel and ligate it with a fine silk ligature after the mass ligature has been applied. After my first death from hæmorrhage I followed this method for two or three years, and then, after giving it up for a time, I had my second disaster. It is my rule never to ligate a blood vessel without taking up as little tissue as possible, and even when this is done I believe it is a safeguard in hysterectomy, or when the vessel is large, to place a final ligature over the cut end of the blood vessel.

The only satisfactory explanation of my second death from slipping of the ligature is that after ligating the ovarian arteries and the uterine arteries, and after removing the fibroid, which was quite a large one, I discovered that the growth of the tumor had elongated the cervix, and in cutting away the redundant cervix I believe this reduction of its bulk loosened the grip of the ligature and allowed it to slip. It was the only time I had attempted to do this, and I believe that it was the weak point in the technique of that operation.

Two practical rules I think to be laid down are, no matter what ligature or crushing instrument we use, we should first of all include

as little tissue as possible in the ligature; and, where we wish to be doubly secure, we should reinforce our ligation by placing a fine silk or catgut ligature around the cut orifice of the vessel before completing the operation. The peace of mind and the security against hæmorrhage afforded by this precaution amply repay the operator for the few extra moments of time required.

Dr. W. KRUSEN: I have had the opportunity of seeing Dr. Montgomery use the instrument six or seven times within the last week or two, and I have been struck with the fact of its usefulness for thick pedicles where the ligature is more apt to slip.

There is no question but that the majority of accidents occur from the fact that too much tissue is included in one ligature, as Dr. Norris has said, and the stump is cut too close to the ligature. There is also no question but that the majority of cases of secondary hæmorrhage would not occur, were a fine ligature employed in taking in small fragments of tissue, leaving sufficient stump beyond the applied ligature to prevent its slipping. The use of the angiotribe by Goffe and others shows how frequently they have trusted alone to the crushing power of the instrument. This calls to my mind the statement made by Senn that 80 per cent. of the cases of appendicitis would get well without operation, but the other 20 per cent. were the ones we are working for. So it is in the use of the angiotribe; although 99 per cent. of the cases might get well without a ligature, it is the 1 per cent. that we want to save.

If Doyen, with his skill and mechanical ingenuity, finds that he is not able to trust entirely to the instrument, it is the best argument that no instrument for crushing tissue is sufficient.

Dr. A. J. DOWNES: I have been much interested in the paper of Dr. Montgomery, and also in the discussion of it. It is very evident that we are stll looking for a more perfect method of hæmostasis. Last year I became very much interested in the work of the late Dr. Skene in electro-hæmostasis. The objections to Dr. Skene's electro-hæmostatic forceps are, that rubber tubing is used as the insulating material of the conducting wire, which renders the instrument difficult of perfect sterilization; and that the time required for hæmostasis is too long. Other objections could be mentioned. During 1899 and the early months of this year I had four forceps made which I used a few times with success. These instruments were not all I desired. This summer I had two electro forceps made in Berlin, by Louis and H. Loewenstein, the makers of Dr. Freundenburg's modified Bottini incisor.

My latest forceps has the conducting wire concealed within the

metal of the instrument, is waterproof and capable of perfect sterilization by boiling. It is well tempered, and gives considerable pressure between the blades. The blade becomes heated in five seconds. By its use I hope to be able to control hæmorrhage in thirty seconds. I am sure of being able to do so in less than a minute. One of the numerous advantages of electro-thermic hæmostasis over the ligature and the angiotribe is that we get perfect sterilization of the hæmostased tissue There is no raw surface left to exude serum and to adhere to surrounding tissue. The mouths of the lymphatics are also sealed. There are many reasons why if possible the ligature should be supplanted.

I am putting my electrical apparatus in order to begin the use of my latest forceps and expect to appear before this society in two months with considerable experience in the use of electro-thermic hæmostasis in major surgery.

Dr. JOHN C. DA COSTA: I think the suggestion of Dr. Montgomery that one of the uses of the angiotribe is to make a channel for the ligature is a new idea and suggests a very different use for it from that advanced at Atlantic City. The angiotribes exhibited there were not improperly called (by Dr. Bovee, I think) "plumbers' tools"; and their use as suggested there was to do away entirely with ligatures and to trust to their crushing power, said to be 3,000 pounds, in order to devitalize the tissue. Realizing the trouble we all have sometimes with big pedicles, I think this idea of Dr. Montgomery's to get rid of the superfluous tissue and leave a button outside over which it is almost impossible for a ligature to slip is a good one.

The dread of secondary hæmorrhage has been my rock ahead for some years. Those who have seen me tie a pedicle know how I transfix and twist the ligatures of each side before tying and then, as a rule, sew the sides of the stump together and sew the peritonæum over it. This makes a round button over the ligature and prevents slipping. Closure of peritonæum prevents hæmorrhage and adhesion of the raw surface to the intestines.

Dr. MONTGOMERY closes: The discussion to-night I think fully demonstrates the importance of the subject which I brought before you. The various methods to avoid hæmorrhage that have been presented by men who are conscientious in the discharge of their work, and even under the precautions they take, sometimes result in the loss of a patient. I can truthfully say that there is no more uncomfortable sensation than that of an avoidable death; for, we must feel that such an occurrence could, and should have been avoided.

The instrument I have presented, used as I have suggested, will I

think, enable us to avoid the occurrence of this sequel. If the instrument is efficacious in many cases without a ligature, it certainly will be a safguard to employ it with the ligature. Those of us who practice in hospitals and see cases come back time after time to be treated for sinuses, for conditions occur in the hands of men whom we know to be careful and conscientious, indicate that there is necessity for obviating as far as possible the sequellæ from the irritation of durable ligatures. The presence of a mass of tissue surrounding a ligature in close proximity to the bowel is material of low vitality which is likely to become infected.

In the use of the modification of the forceps of Skene, made by Dr. Downs, I think the doctor himself has indicated the difficulty we would meet with in the transportation of the apparatus. It would seem to be cumbersome, and we all know how frequently the battery is not in order. Beside the difficulty in transportation there is the increased amount of material to be looked after and rendered aseptic.

I feel that the angiotribe is a good instrument to supplement the operation. It enables us to insure to a greater degree against the occurrence of hæmorrhage. I would not trust it without the ligature. I believe with the ligature it will be of great assistance and will save the lives of some patients.

Official Transactions.

FRANK C. HAMMOND, *Secretary pro tem.*

TRANSACTIONS OF THE CHICAGO GYNÆCOLOGICAL SOCIETY.

Stated Meeting, June 15, 1900.

The *President,* T. J. WATKINS, M.D., in the Chair.

Curage; Two Advantages It possesses over Curettage.

BY F. A. STAHL, M.D.

(See page 315.)

DISCUSSION.

Dr. JOSEPH B. DE LEE: I want to correct an impression that Dr. Stahl has erroneously received in regard to the introduction of the hand into the uterus. I have been introducing the hand into the uterus, in cases where it is absolutely necessary, for years, and in this connection I desire also to emphasize the danger of introducing the hand into the uterus. It is certainly a procedure which is fraught with great danger, and when there is no absolute indication for it I do not believe it should be done. In discussing the doctor's paper, I took the position that the finger should be used instead of the curette wherever possible. But there are some cases in which the finger cannot be introduced into the uterus, as in cases of very early pregnancy; but wherever it is possible it should be so used, to discover a perforation of the uterus or retained fragments of ovum, which latter condition is almost inevitable if the curette alone is employed.

Dr. GUSTAV KOLISCHER: The topic introduced by Dr. Stahl is a very interesting one, and should be freely discussed, but time will not permit. I want to emphasize the point made by Dr. Lee in regard to using the finger for the purpose of dilating the cervix. The danger of the curette is usually underrated because those cases where the uterus is perforated are not published. I would like to call attention to one point, that frequently we have to deal with a septic condition in which the uterine walls are emaciated, and in early pregnancy part of the uterine wall may become thin and bulge forward in the form of a balloon. It explains why the uterus was perforated by the curette, and remnants of placenta are left in the uterus in little cavities. The difficulty which Dr. Stahl mentioned in reaching the fundus may be very

easily overcome if he introduces the index finger and places the other hand outside of the abdominal wall, controlling in this way the thickness of the uterine wall and preventing perforation or injury to the uterine wall and bringing the uterine body in close contact with the index finger even in a very large uterus.

Dr. ALBERT GOLDSPOHN: I likewise think it is of great importance to impress upon general practitioners as much as possible the principles that have just been enunciated. The dangers from curettement for retained secundines are greater after labor at term, when the uterus has been completely expanded and contracts to a small part of its former size. There is no disappearance of tissue in those few hours, but a folding of the mucous membrane into wrinkles must follow, when the muscular wall contracts and reduces the cavity so greatly. The curette in such an organ is more like a buttonhook raking inside of a loose pocket than curetting. The finger is the only thing that can be of service rationally in a uterus that has been expanded to the extent of a completed gestation. It must at least be a guide for the curette. And yet the curette in careful hands is not so disastrous in abortions where the uterus was expanded less, and sometimes can be used very safely. It is important to impress upon general practitioners the fact that the removal of secundines is a different thing altogether from ordinary curettage as applied to the gynæcological uterus. In one instance it is more like removing the furniture in a room without the carpet, while in the other it is removing the carpet.

Dr. LESTER E. FRANKENTHAL: I find that the chief advantage of the finger over the curette is the following: Of course, we all know the uterus may easily be perforated. To my mind the chief advantage is this, where we use the finger, we can determine the exact location of the secundines, and we naturally curette that part to which the secundines are attached; whereas when we use the curette we are apt to curette the whole mucosa, which in septic cases is a dangerous procedure, in non-septic cases uncalled for.

Dr. CHARLES S. BACON: It is unfortunate that this subject comes up at so late an hour. It is bound to create some discussion if we go into it. This subject was discussed some two years ago and the various methods of dilating the uterus were touched upon, which I think is absolutely essential in considering this subject. It has been assumed by the writer that dilatation is performed rapidly. If I remember rightly, the chief criticism made two years ago on Dr. Stahl's paper was dilatation by means of tents in infected cases. Of course, that is the great difficulty with the use of the finger in dilating the cervix. In those cases

where the cervix is already dilated, so that the finger is quite easily inserted, there is no question but that the finger is a safer instrument to use than the curette, provided it be clean. But there are a great many cases, perhaps the majority of them, where interference is necessary, where the cervix is but slightly dilated. Rapid dilatation under anæsthesia is sometimes a dangerous procedure. Dilatation with branched dilators, which are often used, always leads to tear at the internal os, and even with the dilators of Hegar, which are much better, there is generally a giving-way, and where we have a uterus in the condition that it is in some of these cases, it is a matter of considerable importance. I believe, for that reason, the use of the finger is restricted. So in cases which occur in my own experience, I believe the curette is the preferable to use.

The question of cleansing the finger is one that cannot be overlooked, nor can its importance be minimized. The practitioner, who generally handles these cases, is not in the habit of doing laparotomy, and he does not make the finger aseptic, and there is no doubt but that infection very often occurs from the finger itself. For those two reasons, the advantage of the finger over the curette is not absolutely established.

Dr. Reuben Peterson: The value of a discussion is the bringing out of different opinions. I object to the use of the finger as a curette. In the treatment of early cases, and those are the ones where we want to get rid of the secundines, the curette should be used. Formerly much of my work was obstetrical, and when the secundines are to be removed have always found it a comparatively simple matter to forcibly dilate the cervix and then curette the uterus.

The impossibility of rendering the subungual space surgically clean has not been sufficiently emphasized. The only reason why we should employ the finger in these cases would be the danger from the use of the curette, and I believe that with ordinary skill the danger is very slight.

I would also object to the use of the middle finger in preference to the forefinger. The latter is much better educated and will be far more serviceable in palpating the interior of the uterus. I find it very awkward to use the middle finger in making gynæcologic examinations, and I believe that the extra length is apparent rather than real. You cannot bend back the third finger as far as you can the middle finger, and therefore cannot introduce the latter as high up as you can the forefinger. It is possible that the finger may be used to some advantage in palpating the interior of the uterus in order to ascertain if anything has been left

in the cavity, but that is a different matter from using the finger-nail as a curette, and that is what has been recommended.

So far as teaching the general practitioner is concerned, those who have seen the general practitioner cleanse his hands well know that when he uses the index finger as a curette he is generally using a very septic instrument. He can be taught far more easily to boil an instrument, and to use it within the uterus than he can be taught to cleanse his hands.

Dr. JOHN A. LYONS: I desire to add my testimony in support of Dr. Stahl in reference to the use of the finger in the place of the curette. I do not think the curette should be used in the cases under consideration, unless there are symptoms of infection, then curette freely. I have had to introduce my hand into the uterus at term quite often to remove membranes and stop hæmorrhage, yet I have never seen infection occur, but I am quite certain I have many times prevented infection by doing so, even recently in a case where I had been compelled to keep my hand in the uterus for half an hour until I became almost exhausted in an endeavor to overcome post-partum hæmorrhage. Yet I have to see my first case of infection from the introduction of the hand into the uterus, but I attribute the saving of several lives to boldly entering that cavity in this manner.

With regard to the use of the index and middle fingers, I believe it is possible with most of us to reach a little higher with the index than with the middle finger, and one can easily demonstrate this to his own satisfaction by measuring. It is exceedingly difficult to remove the secundines in the early stage of pregnancy with the finger, in a percentage of cases, and therefore the curette has to be employed in these cases to reach high enough, in order to thoroughly evacuate the uterus, and thus prevent infection.

Dr. STAHL (closing the discussion): To save time, I will endeavor to answer collectively the points that have been touched upon. I may say that I notice some difference of opinion since I submitted my inaugural thesis on this subject some seven years ago. At that time some of the discussions were so animated that they were suppressed. I think the discussion has shown that where possible the finger is the safest instrument to use for retention in the uterus, especially in cases of abortion, and I am quite sure the future will bear me out. I think it will only take a few months before this will be proven to the satisfaction even of Dr. Peterson, who seems not yet converted.

As to rendering the finger aseptic, this is the charge which has been repeatedly reiterated in our discussions. I think the time is past when

it is necessary to reiterate about keeping the fingers clean—for this is the Alpha of asepsis, and surely we are beyond that step.

With reference to dilatation, as to the assertion that tents are septic and unsurgical; whether a tent or an instrument be septic or aseptic, surgical or unsurgical, is a matter that lies entirely with the operator to determine. I believe that the tent to-day in some cases is far superior to acute divulsion, particularly in those cases where we have retention and sepsis. There is no difficulty in the use of a Goodell dilator. The only reason I do not use it is because I think it is better to adopt a slower method and to produce as little traumatism as possible. Therefore, I still believe that in some instances the tent is a splendid dilator, and I would like to have any gentleman present prove that a laminaria tent more than any other instrument is a source of sepsis. Where I use these tents I can put my finger into the uterus, remove the retention as a rule intact, and the patients are up on the third day.

Referring to my use of two, the middle and index, fingers in vaginal diagnostic work, I would say that I have always made use of two fingers instead of one finger—the index (for reasons suggested above in my paper). I have always taught such use in my college obstetrical and gynæcological work. For vaginal palpation, for explorations and for differential diagnoses in gynæcology and obstetrics, the index finger alone cannot define so far or so accurately as both together. In obstetrics more especially the differentiation in presentations are favored by the two fingers, likewise those between extra-uterine pregnancy and ovarian cyst.

The exceptions I make are in cases of virgins.

A Case of Supposed Ureteral Traumatism.

By Henry B. Stehman, Chicago and Los Angeles.

(See page 306.)

Read by title.

Official Transactions.

C. S. Bacon, *Editor of the Society.*

ABSTRACTS.

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DR. T. W. CLEAVELAND, DR. G. H. MALLETT, DR. A. D. CHAFFEE.

OBSTETRICS.

UNITED STATES.

Two Obstetric Cases.

C. HAARLAMMERT (*Cincinnati Lancet-Clinic,* July, 1900) reports two unusual cases of recent occurrence in his practice. The first, a well-developed primipara of twenty-two, had been in good health throughout her pregnancy except for occasional vomiting after meals and the frequent belching of large quantities of gas. She was of a nervous temperament and was excited by some unpleasant family affairs. Labor began at term with regular pains occurring once in five minutes. Examination showed child in first position, head not yet engaged. Vagina normal, pelvis roomy, bladder and rectum empty, and os half dilated. A slight tympanites was present, and there was some belching of gas. The pains increased in frequency and severity, the head engaged and membranes ruptured. The pains became so severe and were so prolonged, lasting a minute and with only a half minute's interval, that a little chloroform was administered. Bromide of soda was given, and finally a hypodermic of morphia. The tympanites increased and the abdomen was so painful that she could not aid by voluntary efforts during the pains. Nearly a pound of chloroform was administered during the night, and two more hypodermics of morphia (amount not stated) were given, but the pains were not checked by either. After ten hours of terrible suffering the child was born. The abdomen was so distended that there was no apparent decrease in its size. The attempt to expel the placenta by Credé's method caused great pain. More bromide of soda was given and at length the placenta was expelled. A binder moistened in spots with turpentine was applied. Vomiting began about three hours later, slight hæmorrhage from the uterus accompanying each attack. The uterus contracted firmly after each hæmorrhage, so that but a small amount of blood was really lost. The binder caused such pain that it was removed and turpentine stupes applied. Vomiting was controlled by small doses of calomel and bicarbonate of soda. The second day

tympanites was so great as to cause dyspnœa. Rectal injections of turpentine and water caused the passage of considerable gas by rectum and somewhat relieved the constant eructations. Ten grains of calomel with hyposulphite of soda was divided into three doses and given at intervals of three hours. Turpentine emulsion in drachm doses was given every two hours. Vomiting was less frequent and not attended by hæmorrhage. The stomach retained a small amount of milk. The next day the tympanites remained and there had been no action of the bowels. Retention of urine necessitated catheterization. Patient very weak. Drachm doses of sulphate of magnesia were given every two hours and turpentine injections were given during the early part of the day. Later on enemas of milk and whisky were given and two hypodermics of $^1/_{20}$ gr. strych. nitrate. The following day the patient was still very weak, but the tenderness of the abdomen had lessened, and there was some gurgling in the bowels. About noon there was a small liquid movement of the bowels. The sulphate of magnesia, hypodermics of strychnia, and nutritive enemata were continued. There was pain in the region of the splenic flexure, but no tumor present. In the evening free liquid evacuations began, continuing until midnight. Large doses of castor oil and an injection of glycerine and water failed to bring away any solid material. The patient was almost in collapse, pulse 140 and weak, but rallied and the tympanites slowly passed away. The temperature had remained normal throughout the illness. Involution was slow, but the patient made a perfect recovery.

The second case was one of a retained placenta, which was firmly adherent over one-third of its extent. An anæsthetic was given, the firmly contracted os dilated, and the placenta manually removed.

Double-Headed Monster.

GEORGE E. OREBAUGH (*Ibid.*) delivered a patient of a still-born female child after a protracted labor. The body was perfect in every respect from the shoulders down, except that there were three complete spinal columns; above were two well-formed heads and necks, separate and distinct, each surmounting a spinal column, while the third spinal column ended in a small projection between the two heads. The features of the two faces were unusually clear cut and beautiful for a new-born child. The father and mother were young and healthy, and there was no family history of deformity on either side. During the later months of pregnancy the mother had suffered from vomiting and pain in the right side.

Some of the Later Sequelæ of Accidents occurring during Parturition.

EDWARD S. STEVENS (*Atlanta Jour.-Record of Med.*, July, 1900) says that while external tears occurring in labor are, as a rule, promptly repaired by the modern *accoucheur*, accidents to the parts out of sight are generally not interefered with and, while the woman leaves her bed apparently well and strong, it is often but to become a semi-invalid. The length of time which may elapse after a labor attended by a slight laceration before symptoms of ill-health come on is indefinite. After a while cicatrization closes the rent, but if disease has made a beginning in the torn uterine tissue—disease of such a character that the endometrium becomes involved—the process will continue after the original cause of disease has disappeared. The endometrium becomes granular and bleeds easily, the inflammation extends to the tubes and on to the peritonæal cavity. Sterility follows sealing up of the fimbriated ends of the tubes, abscesses result from accumulations in the tubes, and general pelvic complications follow these slight lacerations at so remote a time that the connection between them is often lost.

The mother of a child four years old began to lose flesh rapidly and suffered from stomach trouble. After a time she noticed that exacerbation of the stomach trouble was attended by a profuse leucorrhœa, calling her attention to the uterus as a possible source of trouble. A bilateral laceration of the cervix was found and repaired; all the stomach symptoms disappeared and she rapidly gained flesh. A few months after the birth of a second child loss of flesh and a severe cough set in; there were no indications of bronchial or pulmonary affection, and examination showed a fresh cervical laceration, following the repair of which the cough disappeared. Excessive bleeding from the uterus often results from the inflammation succeeding an old laceration. The tendency to malignant disease in those having unrepaired lacerations of the cervix is too well known to need mention.

Reflex Lesions of the Oral Cavity Associated with Pregnancy.

F. A. MCAULEY (*Cleveland Med. Gaz.*, July, 1900) says that the almost universal view as to the cause of the tendency to pain and decay of the teeth during pregnancy seems to be that the increased consumption of lime-salts incident to vital growth makes too great a tax upon the calcific elements of the maternal circulation, and divests the teeth of lime-salts, producing nutritive lesions characterized by diminished ossific deposits, tending to decay of the teeth. This would imply that no provision was made in nature for the demands of child-bearing, and

that when the exigency arose the mother had to divide with the fœtus.

Utero-gestation is a physiological process and should create no reflex disturbances of the system if perfectly normal. But the frequency of oral diseases associated with pregnancy is in itself presumptive of some disturbance of the uterine function.

Where disturbances in the pelvic region cause distended blood-vessels and they in turn press on nerves and nerve-centers, the pulp of the teeth must suffer because of its nerve connections. Anything like habitual hyperæmia of the vessels of the pulp must, by altering or diminishing the blood-supply, interfere with the nutrition of the teeth, and conduce to retrograde metamorphosis of tooth structure. This, combined with a certain diminished vital resistance to the action of agents operative in producing solution of the lime-salts, and a defective assimilation of ossific matter for purposes of repair, leads to the decay and sensitiveness of the teeth. The severe neuralgias occurring in perfectly sound teeth are wholly reflex in character, and may cause great and prolonged suffering without being indicative of, or connected with, any pathologic changes in the teeth.

Vertigo during Pregnancy and not Due to Uræmia.

T. W. SMITH (*Mass. Med. Jour.*, July, 1900) says that, as a rule, vertigo occurring during pregnancy is due to uræmia, but in the following case neither albumin nor casts were at any time found in the urine, though repeatedly sought for.

The patient was 35 years old, had given birth to four children after easy labors, and had had no miscarriages. Soon after her fifth conception she began to have such severe attacks of vertigo that she had to grasp something to keep from falling. This was followed by nausea, vomiting, and a profuse cold perspiration. The attacks showed no periodicity, the intervals between them varying from a few days to a month. The symptoms increased in severity with each attack and continued until the birth of the child. At the seventh month there was quite a copious hæmorrhage, lasting only one day.

Labor began at term and progressed normally until the child was partially born, when all pains ceased and the child had to be delivered. The writer was detained at another labor case, and the nurse in charge of the patient tried every means to deliver the placenta, finally making traction on the cord. The writer arrived eight hours after the birth of the child; found the mother restless, pulse quick and wiry, skin covered with a clammy sweat, and complaining of pain in her head and

back. The uterus could be felt as a hard pyriform enlargement above the level of the umbilicus. There was no hæmorrhage, and the os was only partially dilated. Expression of the placenta by Credé's method was tried and slight traction on the cord combined with kneading of the fundus. Ergot was administered and the manipulation of the uterus continued, but to no effect. Chloroform was administered, the somewhat rigid os dilated and the placenta extracted by the hand with considerable difficulty, as it was adherent throughout its entirety to the left side and fundus of the uterus. There was little bleeding, the uterus soon contracted, and recovery was rapid.

The woman's general health was enfeebled by frequent child-bearing and poor nutrition, being in needy circumstances, and the vertigo was undoubtedly due to anæmia. The hæmorrhage at the seventh month could not be traced to any cause, as she had received no injuries, neither had she over-exerted herself in any way. The adherent placenta was undoubtedly due to a low form of adhesive inflammation following this hæmorrhage, and also to atony of the muscular coat of the uterus due to poor nutrition. The fact that all pains ceased before the child was born, and that it was impossible to excite uterine contractions afterward would lead to the conclusion that lack of muscular tone had much to do with the retention of the placenta.

Diagnosis of the Attitude of the Fœtus in Utero by External Examination.

E. GUSTAV ZINKE (*Columbus Med. Jour.*, July, 1900) says that it is not necessary to speak of the importance of knowing the presentation and position of the fœtus before the event of labor, and in nine cases out of ten the attitude of the fœtus can be established, during the last ten days of gestation, by the external means of diagnosis alone. The method of diagnosis may be divided into inspection, palpation and auscultation. By the first we determine the contour, size and position of the uterus, and may often observe fœtal movements. By the second we locate the movements, the head and the back of the fœtus. By the third we find the site where the impulse of the fœtal heart can be heard with greatest intensity. The patient should be in recumbent position on her back, all clothing except a nightgown removed, and the abdomen bare or covered with a thin sheet only. The antero-abdominal surface is divided into four quadrants by two real or imaginary lines; one extending along the median line from the tip of the ensiform cartilage above to the middle of the symphysis pubis below;

the other crossing the first at right angles on a level with the umbilicus. The four spaces may be designated as the right and left upper, and the right and left lower quadrants. *Inspection* should be practiced with the legs extended. If, on inspection, the long diameter of the pregnant uterus runs from below upward we know that the child lies with its long diameter in the same direction. If the movements of the feet can be seen or felt high up near the fundus, it is, probably, a vertex presentation; if the movements are low down, in the pubic or iliac regions, the breech probably presents. For *palpation* the lower extremities must be flexed, so as to relax the abdominal wall. After the movements of the feet have been located, palpate for the round, hard mass of the head in a region directly opposite. Having determined the position of head and feet, the back may be traced between the two, and will be found on the mother's left or right side, as the case may be. For *auscultation* the legs are extended. If the fœtal heart impulse is heard distinctly below the level of the umbilicus, the head is nearer the pelvic inlet than the fundus uteri; and on whichever side of the median line the fœtal heart may best be heard, lies the back of the child.

The four questions are: (1) In what direction lies the longest diameter of the uterus? (2) Where are the fœtal movements seen or felt? (3) Where is the fœtal heart heard with greatest intensity? (4) In what part of the uterine cavity lies the head or breech of the child?

A Plea for the Earlier Use of the Obstetrical Forceps.

J. M. Fassig (*Ibid.*) says that the obstetrical forceps in the hands of one who understands their application and use, knows the principles of the mechanism of labor, and uses sound judgment as to the time for their application, is a most conservative instrument. The cervix must be fully dilated and the membranes ruptured; then, having waited a reasonable time to allow nature to complete the work, apply forceps and deliver before exhaustion sets in. Every conservative will advise the use of forceps as a last resort, yet surely no more harm can be done by their early application than by the later, and much suffering will be spared to the mother, while many lives of infants might be saved. All instruments are dangerous in the hands of an unskilled surgeon, and the forceps are no exception to this rule. The particular kind of forceps is of little consequence. An obstetrician becomes accustomed to whichever make he handles most. The blades should be applied to the child's head before the mother receives the anæsthetic, and the patient allowed to undergo one contractile pain with the for-

ceps applied but not locked. Watch the direction of the uninfluenced handles during this pain, as an index to the direction in which the traction is to be made. Proper application of forceps should be nearly free from pain. No injury need be done to the cervix if the fingers are used as a director and protector to the soft parts. Abrasions on the skin of the head and face of the child are due to changing the position of the forceps blades. This must be avoided after they are once in place. Slipping of the blades is due either to improper application, to a failure to introduce the blades high enough to make the cephalic curve conform to the fœtal skull, or to a malposition of the head. After the head is well down on the perinæum care must be taken in removing the blades. A good plan is to insert two fingers into the rectum, hook them under the chin of the child, and press the thumb against the vertex; this gives good control of the head.

A Maternal Impression.

W. H. FORD (*Pediatrics,* July 1, 1900) reports a case of a woman who had previously given birth to eight normal children, who was delivered of a ninth child, normal except for the absence of its right hand. The father of the child had lost his right hand two years before, and during the mother's pregnancy he fell upon the stump, inflicting two incised wounds which bled freely. The mother was present and assisted in dressing the wounds. This seems like a clear case of maternal impression.

"Menstruation (?) soon after Birth."

ALBERT H. WALES (*Phila. Med. Jour.,* July 7, 1900) reports a case of a healthy female child born after a perfectly physiologic labor of short duration. Four days later the nurse reported the presence of blood on the child's diaper. The blood came from the vagina, and the flow gradually increased until it assumed the character of a free menstrual discharge, then slowly diminished and disappeared on the ninth day after birth.

Labor "Down Hill."

ALEXANDER IRVINE (*Virginia Med. Semi-Monthly,* July 13, 1900) describes two positions which may be assumed by patients in labor, which he claims will result in spreading of the pubic joint, thus giving more room, and will, in many cases, take the place of forceps or even of symphysiotomy. A blanket is spread on the floor, and on

this the woman kneels, supporting her elbows on a chair. In this position the full benefit of the force of gravity is obtained, and the abdominal muscles act to the best advantage in "bearing down." The knees should be kept as close together as possible to take advantage of the angle of the femur at the hip-joint. Experiments on the cadaver and skeleton have proved the spreading of the pubic joint in this position. Labor in this position is aided by the weight of the child, and may be hastened by Kristeller's method, which consists in the placing of the accoucheur's hands on the patient's abdomen, and gently pushing the fœtus through the pelvic canal with each pain.

The half-reclining position recommended by Playfair, with the legs flexed on the thighs, and the knees close together, is of advantage also. Pressure should be made on each knee to facilitate spreading of the pubic joint.

Peritonitis in the Fœtus.

J. A. PORTER (*Phila. Med. Jour.*, July 21, 1900) attended a healthy woman of 25 in her second confinement. There was unusual abdominal enlargement, due to excess of liquor amnii. Four weeks before the normal labor there had been some labor pains for twenty-four hours, but these subsided and she went on to term. The first stage was unusually slow and painful. After the os was dilated the membranes were ruptured, there was a tremendous gush of liquor amnii, and the head was soon delivered. The pains were very strong, but no further progress was made. Traction was made and the shoulders delivered; then decided traction in the axillæ of the child delivered the abdomen and legs. The child gave one or two unnatural respiratory movements and died. All means were tried to resuscitate it, but without avail. The child's abdomen was much distended; autopsy showed that it was filled with a greenish-brown fluid and there was every sign of recent peritonitis. The intestines were matted together with soft lymph adhesions and the mesentery and peritonæum deeply congested. No anatomic cause could be found for the peritonitis. The enlarged abdomen of the child had evidently caused the difficulty in delivery.

A Contribution to the Management of Face Presentations.

MALCOLM MCLEAN (*Med. News*, July 28, 1900) wishes to present a method of dealing with this malposition which is somewhat novel. It may be described briefly as "version by the vertex within the pelvis." The possibility of this maneuver had been thought of from noticing the comparatively unoccupied spaces in the lumen of the pelvic canal

in certain positions of the head, so that it seemed reasonable to expect that, by properly directed forces, these spaces might be utilized in a manipulation which would cause the chin to ascend and the occiput to descend. The revolution of the head would be essentially flexion—the head being turned through an arc of about sixty degrees, upon an axis passing through the base of the skill. Upon consulting the literature on this subject it was found that both Caseaux and Hodge had considered such a procedure possible, but neither had attempted it. The common teaching has been, where the chin failed to rotate forward, and where violent forceps-traction failed to extract the head in its faulty position, to resort to craniotomy. In two cases of well-marked face presentation with the chin posteriorly, and in which rotation to the front was practically out of the question, the following method has been tried by the writer with the result that both children were born alive and in good condition without any injury or accident to the mothers. The first case was a primipara with a pelvis short in some of its measurements, the child not small, with its face wedged down upon the floor of the pelvis, in which position it had been for several hours. In the second case the child was unusually large, but the condition was discovered early in labor.

With the patient under full chloroform anæsthesia, one hand of the attendant is passed into the vagina, while the other hand grasps the body of the child from the outside. In the entire absence of uterine contraction the child's chest is pushed away from the pelvic brim, pushing obliquely from behind forward. The fingers of the hand in the vagina at the same time are pushed up alongside of the head in one or other of the oblique diameters of the pelvis, so that they can reach the sub-occipital portion of the head. The thumb steadies the brow, and with a slight lifting motion imparted to the whole head, it is caused to rotate on its axis as referred to above, the chin passing upward above the sacro-ischiatic notch as the occiput is drawn down below the pubis. Flexion may be considerably hastened by pressing down the occiput with the outside hand as soon as the face is dislodged from its wrong position. A normal occipital position is thus secured.

Cases may arise in which the disproportion between the head and pelvis may be such as to leave insufficient room for the operator's hand, but even in such cases the attempt to perform this operation will leave the case none the worse and other methods must then be resorted to. The rarity of face presentations makes it difficult to estimate the number or proportion of cases suitable for the above procedure, but in all cases it should be tried before violent methods are adopted.

Puerperal Eclampsia: Its Cause and Treatment.

JOHN E. SYLVESTER (*Annals of Gyn. and Ped.*, August, 1900) says that in order to perfect a line of treatment the etiology of the disease must be understood, and here is the difficulty in puerperal eclampsia. Numbers of theories have been propounded, but it is most generally accepted that the composite effect of several causes produces eclampsia. There is an excitable nervous system made more so by blood loaded with excretory products, and this, intensified by deficient renal secretion, and added to this in many, probably in most cases the reflexes from an irritable uterus.

When any of the well-known symptoms of the pre-eclamptic condition appear the patient should be put at once upon a milk diet and the tension of the arterial system brought down, which of itself will favor the better action of the kidneys. Too many times the physician, in his efforts to obtain a free flow of urine, forgets that it is necessary to supply large quantities of fluid as well as to give diuretic drugs. Potassium salts are naturally first thought of. Potter thinks that they should be avoided, as they favor the production of intestinal toxins and tend to diminish the red blood-corpuscles, which should be conserved. It is of great importance to promote the action of the liver by hepatic stimulants and cholagogues. Carl Braun uses for routine treatment a pill of aloes and colocynth. The writer's custom is to administer every morning for one or two weeks a dose of sulphate of magnesia, usually combined with ginger, large enough to produce one or two free evacuations every morning. When medical and dietetic treatment fails, artificial delivery must be performed.

When eclampsia has already set in the important thing is to stop the convulsions. The reflex excitability of the nervous system must be lessened by sedatives. Large doses of chloral by rectum may be used, and chloroform may be administered during the convulsions. Veratrum viride in repeated doses until the pulse is reduced to 40 or 50 per minute is good in plethoric cases, but should never be used when the patient is pale rather than congested. Veit says that the results of the systematic administration of morphia have not been equalled by any other method. Since a rapid lowering of vascular tension is one of the most effective sedatives, blood-letting is often of great service in plethoric patients. The danger of this procedure is practically eliminated by the use of subdermal injections of saline solution. These injections are also useful, even when bleeding is not resorted to, in diluting the poison in the blood. A substitute for bleeding is prac-

ticed by the writer that is not referred to in text-books. When the patient is found in convulsions cloths are at once tied tightly around the arms and thighs to relieve the intense congestion of the head. The patient almost immediately relaxes, and in several cases there was no return of the convulsions. Other treatment did and should accompany this procedure, but as a means of affording instant relief it should never be neglected. If the os is patulous delivery should be immediately accomplished. There is great difference of opinion as to the advisability of rapid dilatation of the os. A waiting policy may be adopted except in desperate cases.

Pernicious Vomiting of Pregnancy and Its Treatment with Electricity.

J. P. OLIVER (*Texas Med. Jour.*, August, 1900) says that the vomiting of pregnancy may be divided into two stages; in the first, the taking of food, or in some cases the suggestion, sight or smell of food will produce vomiting, but the nausea is not persistent. In the second stage vomiting is practically continuous, even when the stomach is empty. The mouth is dry, breath offensive, bowels obstinately constipated, thirst is great, there is progressive emaciation and weakness; death usually occurs in coma. Hyperdistension of the womb by multiple pregnancies or hydramnios, malpositions of the womb, inflamed conditions of the cervix or endometrium, neurasthenia and intercurrent diseases may all cause pernicious vomiting. The diagnosis of pernicious vomiting due to pregnancy is no easy matter. Post-mortem examinations have not been made in most of the deaths alleged to be due to this cause in either this country, England, or France. In Germany nearly every case has been carefully studied post-mortem, and in many instances the vomiting was found to be due to causes entirely apart from the existing pregnancy.

The writer had two cases which resulted fatally. Both had albuminuria; in neither was a post-mortem obtainable, so that it was impossible to either assert or deny whether the kidney trouble was not the cause of death. The third case aborted five weeks from the initial attack, and recovered. She had received nourishment by rectum, and the persistent use of oleaginous ointments was kept up. A fourth case was a woman of twenty-four, with a tubercular family history, pregnant two and a half months, two children living. All the usual remedies had been tried, including cocaine. The writer was called in consultation and found the patient emaciated, constipated, had albuminuria, consolidation of the apex of one lung, and persistent vomit-

ing. The family were anxious to have an abortion performed at once, but it was decided to try other means of relief first. She was anæsthetized, the os dilated over an inch and nitrate of silver solution applied. This afforded no relief. She was free from vomiting only which narcotized by morphia. Nutrient enema had been kept up for some weeks. The use of the Faradic current was suggested as a last resort. It was used twice daily, alternating the negative and positive up and down the entire spinal column and over the stomach. Improvement was soon shown, and in six days the patient could retain light food. The vomiting soon ceased entirely and the patient went to a higher altitude on account of the lung involvement. In this case there may have been tubercular irritation either of the nerve-centers or of the serous covering of the uterus; or it may have been a case of neurasthenia. There was no malposition of the uterus or appendages.

The Early Recognition of Ectopic Pregnancy.

De Witt G. Wilcox (*Phila. Med. Jour.*, August 4, 1900) believes it possible to recognize tubal pregnancy as early as the fourth or fifth week, before rupture of the tube. Most of the symptoms given by the patient to the physician suggest normal pregnancy, but there is one sign which should never fail to arouse the suspicion of ectopic gestation. A history is given of passing the regular menstrual period without any flow, but in a few days or a week there was a slight flow lasting from six to twenty-four hours, or there may have been a sudden, quite severe hæmorrhage ceasing spontaneously in a few hours. This is due to the efforts of the uterus to get rid of the decidua formed within it. Repeated slight hæmorrhages probably occur at intervals, and soon there will be a history of sudden sharp pains either on one side or the other, coming at intervals and often following exertion; with each attack of pain there is apt to be a slight flow from the uterus, often brownish in color rather than bright. These pains do not indicate rupture of the tube, but tears in its peritonæal covering which stimulate the uterus to contract and cause the slight flow. The cervix will be soft, the uterus somewhat enlarged, but at one side there will be found a small, tense, extremely sensitive lump. These four symptoms, delayed menstruation, irregular bleeding, ovarian or tubal pain either sudden and sharp or increasing from day to day, and the presence of a lump at one side of the uterus, are not found together in any other condition than ectopic pregnancy. Another diagnostic sign is the passing of shreds of membrane, the fragments of the uterine

decidua. Occasionally this decidua comes away more or less intact, leading to the impression that an abortion has occurred, and that the mass is the after-birth. There are three possible outcomes to this condition: (1) While the tube usually ruptures at six weeks or three months, it may never rupture fully, but the fœtus may be retained there, reaching full development and viability to be removed by an operation or to die imprisoned. (2) There may be tubal abortion, the ovum escaping from the fimbriated end of the tube, carrying with it the decidua or placenta, according to the period of development. The pain, shock, and hæmorrhage attending this may be as great as that attending rupture of the tube. (3) Most frequently rupture of the tube takes place and the ovum either dies, or escapes with its membranes intact and the placenta being able to fasten on some surface from whence it can derive nourishment, the fœtus develops as rapidly as though in the uterine cavity.

As soon as tubal pregnancy is diagnosed the abdomen should be opened, the tube ligated, and hæmorrhage controlled. If rupture has occurred and the patient has survived the shock and danger of septic infection an operation should be performed at once.

Puerperal Eclampsia, with Report of Ten Cases.

J. B. Todd (*Philadelphia Med. Jour.*, August 11, 1900) considers headache the danger signal in pregnant women, either before, during, or after labor. Albuminuria, unless excessive, is much less likely to be followed by convulsions. When severe pain in the head is complained of there is little reliance to be placed on diuretics, especially digitalis and potassium acetate, which depress the heart and do not eliminate urea. Hydragogue cathartics, preferably elaterium, should be given for elimination, followed by iron and mercuric chloride. For controlling the convulsions nothing is equal to morphine if given in sufficiently large doses. From ½ to 1½ grains hypodermically should be given at the first dose, to be repeated whenever the patient complains of severe pain in the head, whether it has been one hour or longer since the last dose. In one case the morphine was given in increasing doses until from 5 to 9 A.M. on the second day she received 4 grains, and during the next twenty-four hours 8 grains. She was not narcotized at any time, only quiet. This patient was two months pregnant at the time of her eclamptic attack and recovered without aborting. Four months later a macerated fœtus and the placenta were expelled. She has had three normal labors since. In the ten cases

six occurred after labor and there was but a single convulsion, the hypodermic dose of morphine prevented the recurrence. All recovered. In two cases during labor morphine was used and both mothers and children lived. In one case abandoned by an eclectic after convulsive attacks for twelve hours the patient died in a few minutes after the writer's arrival. The tenth case, occurring during pregnancy, has been referred to.

Medullary Narcosis during Labor: A Preliminary Report.

S. MARX (*Medical News,* August 25, 1900) says that Tuffier's reports of 63 operations painlessly performed by the use of cocaine injected into the subarachnoid space, suggested to him the idea of utilizing this method to allay, or at least to mitigate the pains of labor. Only five cases have been attempted thus far but the results justify a report and warrant the statement that in lumbar cocainization we have a method of the greatest value in producing analgesia, checking the pain of labor without, as far as present experience goes, being in the least dangerous to the life of either mother or child. The patients all suffered, more or less, from nausea, vomiting, headache, throbbing, and fulness in the head, slight increase in pulse-rate, chilly sensations, and a rise of temperature even as high as 103° on the evening of the day of operation. In every case these symptoms were but transient passing off in from six to twenty-four hours. All of these disagreeable symptoms were controlled by $^1/_{100}$ of a grain of nitroglycerine alone or combined with a small dose of morphine. That these symptoms were not due to the cocaine was proved by one case in which, by mistake, salt solution was injected instead of the cocaine; they are probably due to a disturbed intraspinal pressure, whether diminished or increased cannot be stated. In from seven to twelve minutes after the injections the pains were diminished or allayed, the analgesia continuing about three hours. Motor disturbances, so far as the uterus and its contractions are concerned, were not noted. The abdominal muscles were not called into play under cocainization except at command, and then the bearing down was as powerful as if no cocaine had been used. The method employed was as follows, taken from the careful notes of Dr. Stone, House Surgeon at the Maternity Hospital, who made all the punctures, and under whose care were the patients: The patient's back, from the coccyx to the middle of the dorsal vertebræ, was scrubbed with tincture of green soap, alcohol, and ether. This area was covered with sterile towels, and the patient placed on her side with arched back. The needle employed was about ten cm. long, and it and a metal

hypodermic syringe were boiled ten minutes. The thumb of the operator's left hand is placed on the spinous process of the fourth lumbar vertebra, a point readily found by locating the deep depression between the spine of the last or fifth lumbar and first sacral; or, in very fat women, a line drawn joining the highest points of the crista ilii will pass over the center of the fourth lumbar vertebra, and is a reliable guide. The needle is inserted half an inch in front of and just outside the edge of the thumb at an angle of about 165°. The direction of the needle is from below upward and without inward. If the point strike the lamina it can be moved gently up or down until the space between the vertebræ is felt. (The puncture may be made between the third and fourth or fourth and fifth vertebræ.) The point of the needle is carried slowly and gently downward until the spinal fluid is seen running out. Ten minims of a cocaine solution, representing $^1/_6$ of a grain, are now injected and the needle withdrawn.

Case I.—An anæmic multipara of thirty-three, with a double femoral hernia. The membranes ruptured at 3:30 P.M., with the os fully dilated; cocaine injected at 3:48 P.M.; eleven minutes later sensory paralysis complete below the level of the umbilicus; painless uterine contractions every two minutes, and the child born spontaneously at 4 P.M. without the knowledge of the mother. The placenta followed in twenty-two minutes. All unpleasant symptoms, which in this case were slight, had disappeared without medication at the end of twenty-four hours.

Case II.—Multipara with extreme hydramnios. The patient had had labor pains for nearly twenty-four hours, but they had ceased; membranes ruptured, os only partially dilated, head presenting above the brim. Cocaine was injected and manual dilation was performed as easily as under chloroform. For the sake of experiment neither version or high forceps were tried. In twenty-four hours her condition had returned to normal, labor pains began again, and in five hours the child was born spontaneously.

Case III.—A primipara of twenty. After the os was dilated cocaine was injected but with no effect. In forty minutes another injection of the same solution was given with like result. Chloroform narcosis and forceps were then used. The disturbances of temperature, pulse, etc., disappeared after eight hours. Later on the cocaine solution was tested by various methods and found to be totally inert.

Case IV.—Multipara of thirty-eight. Condition excellent. There was total sensory paralysis below the umbilicus seven minutes after the injection of cocaine. The child was delivered by forceps, the

mother being conscious only that traction was made. The expression of the placenta and repairing of the perinæum were painless. Twelve hours later the patient was in normal condition.

Case V.—Multipara of thirty-five, with cellulitis of leg and thigh. There was spontaneous rupture of the membranes and prolapse of the cord. Cocaine was injected and had taken full effect in six minutes. Podalic version was performed and the child extracted. The patient complained of a sense of suffocation when the hand was introduced into the uterus, but did not know when the child was born. During version the uterus contracted so firmly around the operator's hand that manipulation was difficult.

Case VI.—Primipara of twenty-six. Membranes ruptured and foot presenting. The usual injection of $^1/_6$ of a grain of cocaine had produced no result at the end of half an hour beyond slightly delayed pain sensation. After a second injection of the same amount the effect was not felt for twenty-nine minutes, although nausea, vomiting, profuse sweating, with burning in the legs followed immediately. The child was delivered unknown to the mother, a second macerated fœtus was delivered by the introduction of the hand into the uterus without any discomfort to the mother. The placenta failed to come away with the Credé method, and the entire house staff tried in succession to remove it manually. The uterus was in a state of spastic contraction with the placenta firmly adherent. The same conditions persisted under chloroform, which was administered to the surgical degree. The uterus was packed with gauze and five hours later, under the effect of a third injection of cocaine, the writer introduced his hand into the uterus and peeled off the placenta. Although the patient had received half a grain of cocaine in seven hours, she experienced no unusual discomfort and was in every way normal in twenty-four hours.

Whether remote dangers are to be apprehended from this procedure the cases are too recent to determine.

A Case of Parovarian Cyst with Twist of the Pedicle occurring during the Fourth Month of Pregnancy; Operation; Recovery; Normal Delivery at Term.

F. B. Lund (*Boston Med. and Surg. Jour.*, August 30, 1900) reports the case of a married woman, four months pregnant, who was suddenly attacked with vomiting and severe pain in the right inguinal region. This pain recurred every ten or fifteen minutes. A fluctuating tumor, larger than a pregnant uterus at four months, occupied the

hypogastric region, extending rather more to the right. There was excessive tenderness in the right inguinal region. The cervix was soft and a very tender mass of moderate size was in the right cul-de-sac. The pains continued and the next morning a small, tender mass could be distinctly felt in the region of the appendix. A diagnosis of appendicitis and pregnancy was made and laparotomy performed. An opening through the right rectus muscle showed the supposed appendix to be the right broad ligament, twisted on itself three times, forming the pedicle of a cyst behind and above the pregnant uterus. The intensely congested ovary was pendant from the cyst wall, but not incorporated in it. The rectus incision was closed and a longer one made in the median line. The cyst was tapped, a quart of dark thin fluid withdrawn, the cyst taken out of the abdomen, the pedicle untwisted and ligated, ovary and cyst were then removed. Examination of the tumor proved it to be a parovarian cyst. The patient made a quick recovery and was delivered at term of a healthy child. There was no evident weakness of the abdominal wall at the seat of the incisions.

CANADA.

Morphia in the Treatment of Puerperal Convulsions.

DAVID HOIG (*Ibid.*, July, 1900) says that his experience with eclampsia dated from his first obstetrical case. His consternation at being caught with a case of great severity, with a limited supply of drugs and several miles from professional assistance, can be imagined. The necessity of controlling the convulsions almost forced the use of morphia. The results were gratifying, and for some time morphia had precedence in the writer's treatment of eclampsia. In a practice in which, unfortunately, there was a large number of eclamptic cases, morphia has failed three times, and in the practice of another, twice. All of these cases presented one of two peculiarities. Three of them were non-uræmic cases, with no history of renal insufficiency, and in the other two the convulsions preceded childbirth. In one case a woman was in her fourth confinement. The previous labors had been normal in every respect, as was this one until four hours after the birth of the child, when she was seized with convulsions. One-fourth grain of morphia was immediately injected, and after an interval of an hour and a half the dose was repeated. In the meantime the skin and kidneys had been stimulated as much as possible. The convulsions continuing with unabated severity, one-third grain more of morphia was

given, which seemed almost to aggravate the symptoms. Rectal injections of chloral and bromide, however, controlled the attack, and recovery followed. Urine was obtained during the progress of the convulsions, and was free from albumin, as it had been during pregnancy. Two other cases similar to this have led to the conclusion that in non-albuminous cases morphia is not only useless but harmful. Convulsions preceding childbirth should be controlled by chloroform, and as soon as the child is delivered morphia may be given. To be efficient large doses are necessary, half a grain being borne with safety at such times.

Two Forms of Puerperal Infection, with Cases.

K. C. McIlwraith (*Canadian Prac. and Review,* August, 1900) examined the lochia in two cases of puerperal infection the clinical courses of which clearly illustrated the difference between saprophytic infection and infection with pyogenic cocci. The method introduced by Doderlein was followed in obtaining the lochia. In the first case the pulse and temperature had risen by the fourth day to 180 and 105.5° respectively. The hand was passed into the uterus and a large piece of placenta peeled off with difficulty. The temperature fell to 99.5° but never became normal, and the patient died on the twenty-sixth day. Intra-uterine injections were given several times but produced no effect beyond a temporary rise of temperature. Cultures from the lochia showed groups of staphylococcus pyogenes. The second case was delivered while suffering from measles. On the third day the temperature was 102.5°. A large piece of placenta was removed by passing the hand into the uterus, and an intra-uterine douch given. The temperature fell to normal by the second day and recovery was uninterrupted. Cultures from the lochia showed unmixed colonies of bacillus coli communis. The difference in result depended upon the difference in the infecting organisms.

The examination of the lochia in all cases of puerperal fever will not only aid in the diagnosis but in the prognosis as well, beside furnishing hints as to treatment. Twenty-four hours is usually sufficient for ascertaining the result of the culture, so that little time is lost. If only saprophytes—organisms which live on dead tissue and do not penetrate living tissue—are present, the patient will recover when the dead tissue is completely removed, and here *repeated* intra-uterine douches are often of service, for not all the shreds of dead tissue may be washed out by the first douche. If pyogenic cocci, which can penetrate living tissue, and multiply deep in the uterine wall be present, the

prognosis is grave and intra-uterine douches are quite useless. Neither can curettage remove the germs completely, and, moreover, curettage is more or less dangerous in a puerperal uterus when the walls are softened by septic infection.

Great Britain.

Antenatal Diagnosis.

J. W. Ballantyne (*British Med. Jour.*, June 16, 1900) says that by antenatal diagnosis is understood the recognition and the separation one from another of all the pathological conditions which are produced during antenatal life, not only while that period of existence is in progress, but also while the child is being passed through the vagina during labor, and after it has been delivered. The birth of a diseased, malformed or dead child does not remove the necessity for a diagnosis of its particular disease or malformation, and if dead, the cause of death should be carefully studied into. It is much easier to make a diagnosis after birth, but with the decrease in difficulty has come decrease in value, and the chance of successful treatment may have passed. While the facilities for diagnosing morbid states while the child is yet *in utero* are few and the difficulties many, yet the obstacles are not insuperable. The physician listens for the fœtal heart, notes the size of the uterus, asks about fœtal movements and examines the urine for albumin a few times and is content. In the case of an obscure lung trouble this same practitioner would percuss, auscultate and palpate until he had cleared up the diagnosis, and would feel ill at ease if he failed to do so, but few would pay the same amount of attention to the abdomen and uterus if a pregnant woman complained of pain in the hypogastric region, or spoke of unusually inactive or excessively active fœtal movements. The means of clinical investigation in antenatal diagnosis are seldom made full use of. It may be urged that women would be unwilling to submit to the thorough and repeated examinations; but for this state of affairs the medical profession are largely responsible, not having laid stress upon the value of such procedures. If a sensible woman were convinced that it was for her welfare and that of her unborn child to submit to such thorough examinations, few would refuse or even hesitate. Antenatal diagnosis includes the discovery of normal pregnancy, of plural pregnancy, of fœtal death, diseases and monstrosities of the fœtus, hydraminos and morbid conditions of the placenta. A complete physical examination should be made of the maternal organs, especially of the abdominal

viscera; the maternal urine and blood should be subjected to chemical and microscopical examination, as it is beginning to be realized that the condition of the fœtus *in utero* is to some extent reflected in the composition and character of the maternal excretions. The fœtus should be fully examined by the hands, the ear, the cephalometer, the Roentgen rays, and by any other means of exact research that may yet be invented. The previous medical history of the mother, both general and sexual, must be studied, for certain circumstances must be regarded as commonly preceding morbid conditions in pregnancy. The past history and present state of the father, and the family history on both sides must be studied, for certain fœtal diseases and embryonic deformities appear to be hereditarily transmitted; and lastly, the maternal symptomatology during the pregnancy in progress must be carefully watched.

Too little attention has been given to the history of the paternal side, except in the case of syphilis, but there are other diseases, nephritis, diabetes, tuberculosis, malaria, lead poisoning, mental disorders, which may have a direct and injurious effect upon the offspring. The effect of paternal alcoholism has not been fully worked out, but Sullivan has demonstrated that total abstinence on the part of the father did little, if anything, to improve the prospects of the unborn infant so long as there was maternal alcoholism. Nicloux has shown experimentally that alcohol given to the mother animal and the parturient woman quickly finds it way in startlingly large amounts to the fœtus *in utero;* while Sullivan's statistics show that habitual inebriates among women give birth to a very high percentage of dead or diseased infants.

While it is true that delicate, diseased women sometimes give birth to healthy infants, and perfectly healthy mothers produce deformed and diseased children, yet these are but exceptions that prove the rule that the mother's health insures the health of the child. Inquiry as to the mother's reproductive history may be made, as to the menstrual habit, its regularity and freedom from pain, a normal history in this respect indicating fitness of the organs for child-bearing. A history of endometritis predisposes to deviations in the health of the child and the naturalness of the labor. Very old or very young primiparæ are apt to have less healthy children and more difficult labors. The history of previous pregnancies is of importance, for there is a tendency in abnormalities to repeat; not that a given fœtal disease or embryonic monstrosity will occur several times in succession in the same patient (although this is sometimes the case), but pregnancies that are pathogenic, though not in the same way, are apt to be repeated. So well is this

known that the terms "habitual abortion," "habitual fœtal death," etc., are in common use.

In the family history of morbiparous and monstriparous mothers (for by these terms we may indicate a tendency to produce diseased, dead or deformed children), there is often a marked morbid predisposition to various diseases developed post-natally, but in all probability present potentially ante-natally; in this group the neuroses are prominent, as is also susceptibility to be acted on abnormally by such toxic agents as alcohol, morphine and tobacco.

Cæsarean Section: Extensive Surgical Emphysema: Recovery.

NATHAN RAW (*Ibid.*) reports the case of a patient who was admitted into the hospital in labor with her second child. Three years before she had been delivered of a child after embryotomy performed for a contracted pelvis. This time the most noticeable feature about the patient was the extensive surgical emphysema, which almost obliterated her features. The neck, chest, and face cracked everywhere on pressure, and she could not move or turn her head without pain. The emphysema extended down to the eighth rib on either side, but careful examination revealed no wound. The patient stated that twelve hours before, while straining with a labor pain, she felt something "give way" in her neck, and the swelling followed. The membranes had been ruptured for sixteen hours, but labor pains ceased four hours before admission to the hospital. No fœtal heart or movements could be observed. The os was dilated with vertex presenting. The greatest conjugate diameter was two and one-half inches. Cæsarean section was performed and a dead child weighing ten pounds was extracted from the uterus, which was carefully sutured and replaced. The patient made a good recovery, the emphysema being slowly absorbed. At the end of three weeks it had disappeared and the patient left the hospital in good health.

Lead Encephalopathy and the Use of Diachylon as an Abortifacient.

W. B. RANSOM (*Brit. Med. Jour.*, June 30, 1900) records two cases of cerebral disease due to lead poisoning, caused by diachylon taken to procure abortion, and some other cases in which diachylon taken with the same object produced a different set of symptoms. *Case I.*—Married woman, aged 39 years, had had two children and six miscarriages; no history of syphilis. Had not been well for a year, but for five months had suffered from headache and vomiting. Had three fits within last three months; a month before seen had become unsteady on

her feet, and had been in bed three weeks. For a week had been delirious, with visual hallucinations; diplopia for last two days. A most intense blue line on gums. There was double optic neuritis. No muscular wasting or tremors, no local paralysis of the limbs. The ataxy was no worse with eyes closed. The urine had a trace of albumin for two days only. The patient was given fifteen grains of potassium iodide daily and magnesium sulphate. In a month the blue line had nearly gone, the headache had gone, she was perfectly rational and walked steadily. This patient had taken diachylon in pills to produce an abortion, but how much or how long before admission to the hospital she would not tell. A year later she was in perfect health, the eyes normal, and blue line gone. *Case II.*—This patient was 22 years old; in March had gone a week over her time and took a half-pennyworth of diachylon. (This was found to amount to about 23 grains of lead.) Menstruation was reëstablished, but within a week she began to feel dizzy and weak. Vomiting, colicky pains and intense headache came on gradually. On admission to the hospital in June there was a blue line on the gums, drowsiness and slight delirium. She could sit, but not stand alone; the knee-jerk was absent, and there was double optic neuritis. Same treatment as previous case. For a month intense headache and vomiting continued, and she was drowsy and apathetic. The last of August the optic neuritis had subsided, the discs were atrophic, and the patient blind. A year later she was still blind, but in excellent general health. It is very remarkable that such acute and prolonged disease should have been occasioned by a single dose of lead. *Case III.*—The patient was admitted to the hospital with a letter from her physician, stating that she had intestinal obstruction and fæcal vomiting, also that she was pregnant. Taking the doctor's statement for granted, laparotomy was performed and no obstruction was found. There was a normal pregnant uterus and the intestines were empty. The wound was closed. The "obstruction" yielded to hourly doses of Epsom salts. There was a blue line on the gums, and the patient admitted that she had taken diachylon. *Case IV.*—The patient had produced abortion by diachylon, but had no symptoms of lead poisoning beyond a blue vein on gums, colicky pains, and some metritis. Case V. had taken the same amount of diachylon as Case II.; had aborted, and a month later was very ill with colic, vomiting, dizziness, and some headache. The blue vein on gums was marked and there was jaundice. The right kidney was large and tender, and the urine contained large quantities of uric acid, but no bile or albumin. Case VI. aborted after the use of diachylon, and two months

later had active delirium, double vision, double optic neuritis, general tremors but no localized paresis. Recovery. Dr. Powell reports two cases of melancholia, one of which had active hallucinations of hearing, following the use of diachylon. Dr. Moore Bennett reports three cases of lead colic from the same cause; in one of these there was wrist drop and tremor, in another coffee-colored vomit, and in the third septic metritis. The ease with which diachylon can be procured has made its use very common as an abortifacient. It always endangers and often destroys life, or leaves permanent bodily or mental enfeeblement.

The Nature and Treatment of Puerperal Infection.

THOMAS E. MITCHELL (*Ibid.*, July 14, 1900) says that in a well-marked case of septicæmia his routine is to administer as a preliminary dose twelve grains of quinine sulphate. This is followed by douching of the vagina and digital exploration of the uterus for retained secundines. The uterus is then washed out with a weak solution of corrosive sublimate, and an Ehrendorfer's pencil of iodoform (larger than the size usually sold) is introduced into the uterus. A mixture of quinine, carbolic acid, bismuth, bicarbonate of soda and carminatives is given. In cases of prolonged diarrhœa tincture of opium is added. The dose of quinine is not given, but the writer says that it should be given in doses sufficient to produce and maintain cinchonism. The carbolic acid is especially useful in cases where there is diarrhœa, vomiting and tympanites. The introduction of the iodoform pencils is repeated as often as necessary. Hyperpyrexia is controlled by ice-cap and cold sponging, repeated whenever the temperature exceeds 103° F. This has an excellent effect on the pulse as well. "The dressing of the uterine cavity with a slowly dissolving iodoform ointment, the prevention of waste and deterioration of the cardiac muscle by excessive pyrexia, and the creation of a resistant condition by saturation with quinine, certainly seems to give time for the system to organize its natural method of defence, and what might otherwise become a general blood poisoning results only in a localized inflammatory process."

The Nomenclature of Transverse Presentation and of Version, with Remarks on the Choice of the Leg seized.

D. BERRY HART (*Scottish Med. and Surg. Jour.*, July, 1900) says that cases of transverse version at full time and in labor demand most careful consideration and prompt treatment, and although such cases have been studied for centuries, a good and intelligible nomenclature,

especially for the varieties of version, is still lacking, and a difference of opinion exists as to which leg is the better for seizure in order to perform version accurately. The best nomenclature is that which divides transverse presentation into dorso-anterior and dorso-posterior positions, and these again into left acromio-iliac and right acromio-iliac, according as the acromion is to the left or right side. Since by position we understand "the relation to the upper strait of the pelvis of that portion of the presenting part which should rotate to the front in internal rotation," it is better to name the positions from the acromion, as it is often the presenting part.

The present nomenclature of version is very confusing, for the terms applied sometimes relate to the method by which the version is performed, and sometimes to its aim. Another source of confusion is that the internal hand requires to be passed deeply, *i. e.*, above the retraction ring in certain cases, whereas, in the bipolar method of Hicks it should not be passed beyond the presenting part, *i. e.*, about the level of the retraction ring. To be exact, we must define the varieties of versions, both as to method and aim. There are three great varieties. The first is cephalic version, seldom used, and practically performed by external manipulation. Simpson was the first to impress on the profession the importance of aiding with the external hand in the performance of podalic version. In his method the internal hand is passed into the uterine cavity proper to seize a foot. In Braxton Hicks' method the external hand also aids the manipulations, but the internal hand does not pass beyond the presenting part; this is usually spoken of as the bipolar method. The three methods may thus be concisely stated as:

1. Combined external—cephalic.
2. Simpson's combined version—podalic.
3. Braxton Hicks' bipolar version—podalic.

In each of these statements both method and aim are stated.

The Choice of Leg Seized.—In simple cases, where there is an abundance of liquor amnii, the fœtus can be turned easily, whichever leg is taken, and the leg seized will come to the front in the end. But where the liquor amnii has mostly or wholly drained away and version is rendered difficult, it is of importance to seize the leg which gives the safest operation. Simpson advocates the seizure of the further knee, *i. e.*, the knee opposite the presenting shoulder. Galabin, on the other hand, advocated the near foot as a rule. Both considered the seizure of the leg in relation to the feasibility of version without regard to the mechanism of the breech after it is engaged. In Nagel's dis-

cussion of the subject he maintains that the leg should be seized whose half breech will pass sooner to the symphysis. Galabin's diagrams represent the fœtus as dorso-anterior, the more favorable position for seizure of the lower leg, while Simpson illustrated his views on a dorso-posterior case, the better position for the seizure of the further knee. Galabin found that in dorso-posterior position the back was still posterior after version, while Nagel found that when the further leg was seized in nineteen cases of dorso-posterior each became dorso-anterior after version. The best rule for guidance in the seizure of the legs is compounded from the experience of the above writers as follows: Seize the knee, or leg, which maintains the dorso-anterior position or converts the dorso-posterior into a dorso-anterior, *i. e.*, take the further limb for dorso-posterior cases, the nearer for dorso-anterior cases. When however, in dorso-anterior the breech is in the fundus, traction on the nearer leg may convert it into a dorsoposterior; and when the breech is near the os in dorso-posterior, traction on the further leg may not alter the posterior position of the back after version, owing to the want of the necessary obliquity in the pull.

A Case of Eclampsia at the Sixth Month of Pregnancy, treated by Saline Infusion and Veratrum Viride.

J. W. BALLANTYNE (*Ibid.*, July, 1900) was called in consultation to a woman in the sixth month of her second pregnancy. The first labor, three years before, had been normal, and her health during this pregnancy had been good until about a month before, when she noticed swelling of the legs. For a week past the urine had been scanty and pale. On the morning of the day she was seen by the writer she awoke with a violent pain in the epigastrium followed by headache. Convulsions began and followed one another in quick succession. When seen she was in coma, with pupils contracted to the size of pin-points. Two drachms of magnesium sulphate had been given by the mouth, causing a violent convulsion, and then bromide and chloral had been given by rectum. Her pulse was 136, of high tension, and the os undilated. Digitalis fomentations were applied to the loins, and she was surrounded by hot bottles. Following another convulsion 10 minims of the tincture of veratrum viride was injected hypodermically, and in half an hour the pulse had fallen to 100. A pint and a half of saline infusion was slowly injected under the breasts. Two more convulsions occurred, and 15 minims more of veratrum viride were injected. Urine, drawn by a catheter, contained blood, albumin and

casts. Labor was induced by the introduction of a bougie and progressed slowly. Three more convulsions occurred at intervals of two hours, each being followed by the injection of 10 minims of veratrum viride. Bromide and chloral by rectum were repeated. Sulphate of magnesium was administered during the night and the bowels moved freely. At the end of twenty-four hours the patient was conscious and able to take hot milk and water with soda in it. The child was born on the afternoon of the same day and lived a few hours. The patient's condition steadily improved and at the end of ten days the urine was perfectly normal.

GYNÆCOLOGY.

UNITED STATES.

The Mammary and the Parotid Glands.

JOHN B. SHOBER (*Jour. Amer. Med. Assoc.*, July 28, 1900) wishes to emphasize the precise indications which, in his experience, point to the use of the mammary and parotid glands as therapeutic agents in certain morbid conditions of the female pelvic organs.

The mammary gland is prepared in the form of a tablet made of the desiccated gland of the sheep; each tablet representing 20 grains of the fresh gland. The dose is from 3 to 6 tablets daily. While it has no unpleasant systemic effects, it seems to have a very positive action on the uterus, causing contraction of the uterine muscle, so diminishing the blood-supply to the body of the uterus and thus controlling hæmorrhage. Its action is similar to that of ergot, but is far more reliable and can be used for a longer period of time without unpleasant symptoms. In cases of uterine fibroids characterized by excessive menorrhagia and metorrhagia the bleeding is controlled in a few weeks and the periods become regular, normal, and free from pain. There is improvement in the patient's health and weight, and the tumors themselves diminish in size up to a certain point. The patient is thus placed in a better condition for any needed operation, and often the necessity for an operation is postponed. Where there is evidence of inflammatory or degenerative changes, or when serious pressure symptoms are not controlled after a reasonable trial, operation should not be delayed. The mammary gland is also useful in cases of subinvolution unassociated with malignancy or structural changes.

The parotid gland is prepared in the same way from the sheep, and

is given in about the same doses. Its principal power is in controlling ovarian pain, and it has given entire satisfaction in cases of so-called ovarian neuralgia or dysmenorrhœa unassociated with extensive pelvic inflammatory disease—cases of exquisitely tender and usually enlarged prolapsed ovaries with a history of soreness in one or both ovarian regions, often increased a day or two before and the first day of the menstrual period. When, however, there is associated inflammatory disease of the tubes little is gained by temporizing with the parotid gland treatment except to somewhat relieve pain. Such cases demand operation. Uncomplicated cases of ovaritis are quite rare and the diagnosis should be thoroughly established by a careful examination, under ether if necessary, before the gland treatment is recommended; otherwise the results will be surely disappointing to physician and patient alike.

The Angiotribe in Abdominal Surgery.

HUGH M. TAYLOR (*Ibid.*, August 4, 1900) says that his experience with the angiotribe has been about thirty cases, all of which were suprapubic sections; about one-half were uncomplicated hysterectomies, while the others were ovarian cystomas, cases of tubal disease, etc. The writer confesses to a fear of hæmorrhage when he first substituted the angiotribe for ligatures, but in only one case was there failure to secure complete hemostasis; this occurred in resecting a section of badly infected and thickened omentum wrapped around a necrotic appendix. The soft omental tissues cut through, rather than condensed, under the powerful pressure. The precautions incident to the application of the angiotribe—at right angles to the blood-vessels and for three minutes—are so simple that it renders the instrument a boon to one not experienced in applying ligatures to structures in the abdomen. Post-operative shock is diminished and the intensity and duration of post-operative pain lessened, while convalescence is established at an earlier date and progresses more rapidly after the use of the instrument. With the angiotribe there is no puckering or traction, and a case of tissue necrosis has never been reported. Nature's method of arresting hæmorrhage, by contraction, retraction, and clotting, is imitated when the angiotribe is used, and no foreign substance is left in the wound as an irritant. Aseptic absorbable ligatures in an aseptic field are very well, but it is not always possible to render the field aseptic, and the ligature frequently becomes infected and in turn infects before it becomes absorbed. In a septic field there can be no question as to the advantage gained by dispensing with ligatures and sutures.

On Methods of Closure of Abdominal Incisions.

MAURICE H. RICHARDSON (*Med. News,* August 4, 1900) says the methods of suture considered are the suture by layers, the so-called through-and-through suture, and a combination of both. Suture by layers may include as many tiers of stitches as there are anatomical strata, or more than one layer may be included in a single tier. The principle of this method is the accurate approximation of similar anatomical parts and the holding of these parts firmly together by non-absorbable or slowly absorbable suture material until they are strong enough to withstand the strain of coughing, vomiting, or the action of the abdominal muscles. The through-and-through method of suturing does not bring about absolute accuracy of approximation, but its advocates claim that the accuracy is sufficient for firm and permanent union, which is the point of importance in any method.

The liability to wound infection, as contrasted in these two methods, is less in the through-and-through method. The other method unavoidably leaves dead spaces between the united layers filled with blood or other exudate which become infected more frequently than if these collections did not exist. The frequency of hæmatoma in wounds apparently dry is considerable, occurring oftener in large wounds in vascular regions. In an abdominal wound the tendency to infiltrating hæmorrhages increases with the thickness of the muscular walls. The through-and-through method absolutely prevents the formation of hæmatoma or other localized collections of fluids; it is, moreover, simple and rapid. The advantages of both methods may be united by a simple combination, especially desirable when, from the size of the wound and the thickness of the abdominal walls, immediate security is needed. Interrupted sutures of silkworm gut are placed about half an inch apart throughout the extent of the wound. These are held tense by an assistant, the opposing areas being brought together so that the deeper layers are closely approximated, the outer layers apart. The long ends are held in such a way that no intestine or omentum can get caught between the intra-abdominal loops. The muscle and fascia are left exposed and are now united by interrupted silk sutures in one or two layers. The layers of peritonæum and fascia are well enough approximated by the tense strands of silkworm gut. The fascia and muscle are now united by a single line of interrupted silk sutures. After this the silkworm gut sutures are tied one after the other. No blind spaces are left and the muscle and fascia are united by permanent sutures of silk.

In the prevention of hernia prolonged abstention from acts which drag upon the scar and tend to draw its surface apart, is of more importance than methods of suture, material, or careful approximation. In one case a small hernia in a large cicatrix after hysterectomy was beyond doubt caused by the continual laughing of the patient. Bronchitis, with violent paroxysmal cough, often causes hernia. For at least three months only very moderate muscular exercise should be indulged in. The chief advantage of an abdominal supporter is the general aid it gives to the abdominal muscles in supporting the viscera, rather than in any especial strength it gives the scar tissues of the incision. Direct pressure by a pad upon the wound stretches rather than supports it.

Migrated Ovarian and Parovarian Tumors.

GEORGE M. EDEBOHLS (*Medical Record,* August 18, 1900) refers under this name to such growths as have become entirely detached from their former connection with the broad ligament, and either lie free in the peritonæal cavity or are united by new attachments to organs and tissues other than those from which they were originally derived. Torsion of the pedicle up to complete strangulation and division, assisted, no doubt, frequently by tension or traction upon the pedicle, is the process by which the tumor becomes separated. The implantation of the tumor on some neighboring structure, most frequently the omentum, takes place either before, during, or after its detachment from its original site. The adnexa on the corresponding side are generally represented by a short stump of Fallopian tube and ovarian ligament, which remain attached to the uterine cornu. The Fallopian tube and ovarian ligament may be twisted or pulled in their entirety out of the uterus, and after a lapse of years all trace of a scar or other indication of the former site of attachment may disappear, so that it is difficult to distinguish between this condition and congenital absence of the adnexa. Four cases have been observed by the writer and their history is given as an addition to the comparatively few cases that have been recorded.

Case I.—A gangrenous monocyst, presenting all the characteristics of a migrated parovarian cyst, removed from the omentum by operation; cure. Although the uterus, tubes, and ovaries were normal in this case, but this does not militate against the fact of this having been a detached parovarian cyst twisted off and leaving no scar. Braun reported a similar case. Moreover, the cyst had none of the characteristics peculiar to tumors originating in the omentum.

Case II.—Large, strangulated left parovarian cystoma free in the

abdominal cavity, its pedicle having just been completely severed by torsion; left ovarian ligament and left Fallopian tube completely pulled out of uterine cornu; coexistence of umbilical hernia; parovariotomy and radical herniotomy; cure. The patient had known of an abdominal enlargement for a year but had suffered no discomfort until two days before admission to the hospital, when she began to suffer from abdominal pain, vomiting, rapid pulse, and fever. Had the patient survived without operation the incipient peritonitis would probably have provided for the attachment and sustenance of the tumor; the left tube and ovary were in the stump of the pedicle of the self-amputated cyst in a state of beginning disintegration.

Case III.—Self-amputation of left ovarian cyst and tube; intraligamentous right ovarian cystoma; chronic metritis and appendicitis; cœlio-oöphoro-salpingo-hysterectomy performed, inversion of appendix; cure. The left ovary was entirely absent and the left tube also missing with the exception of a twisted stump 2 cm. long, the free end of which was sealed and smoothly rounded. The ovarian cyst was attached to the posterior aspect of the uterus and left broad ligament, and had thus maintained its vitality. There was nothing in the patient's history to indicate when the separation of the left ovarian cyst took place.

Case IV.—Patient gave a history of two attacks of peritonitis, one ten and one twelve years ago; since one year ago had noticed enlargement of the abdomen. When the abdomen was opened a large monocyst of the left ovary presented and was tapped and removed. The right ovary was absent and only 2 cm. of the right tube remained, which, with an equal length of the right ovarian ligament, formed a stump attached to the right uterine cornu. The lower free end of the omentum was enormously thickened and wrapped around a dermoid tumor of the right ovary, 15 cm. in diameter. The tumor had no attachments except to the omentum and was easily peeled out; the greater part of the thickened omentum was amputated. Torsion and detachment had doubtless occurred respectively at the time of the two attacks of peritonitis. The patient recovered.

Posterior Colpocœliotomy for Lesions of the Adnexa and Uterus; Its Indications and Technique.

CHARLES GREENE CUMSTON (*Ibid.*) says that the lesions which may be advantageously removed through the posterior vaginal incision are (1) inflammatory affections of the adnexa, with prolapsus in the cul-de-sac of Douglas; (2) cysts of the adnexa of small dimensions; (3) neo-

plasms situated high up in the pelvis, but which are movable and can be drawn down; (4) large cystic tumors, provided they are not adherent and that by digital examination through the vagina the finger can easily reach the lower pole of the neoplasm; (5) solid neoplasms of the recto-uterine cul-de-sac which do not exceed the breadth of the posterior vaginal cul-de-sac; (6) extra-uterine pregnancy; (7) retro-uterine hæmatocele when hæmorrhage has ceased and the collection of blood has become encysted.

Contra-indications for this operation may be due to local general conditions. Extreme debility, an acute disease or pregnancy would indicate deferring an operation unless the case was one of emergency. Extensive adhesions, a high position of the adnexa, with the impossibility of bringing them down within reach, or a high position of the uterus are contra-indications for the vaginal route. Any malformation of or a very tight vagina preclude the operation. Where the adnexa are adherent in the paravesical fossa, anterior colpotomy is the operation to select. Various objections have been raised against colpo-cœliotomy. (1) It is slow. In a few cases some time is required to bring the adnexa down to form a proper pedicle, but ordinarily thirty minutes is sufficient. (2) There is lack of space. The writer has yet to meet with a case in which the size of the vagina was any hindrance to a perfect result, but lateral incisions could be readily made in the perinæum if necessary. (3) Conservative surgery cannot be performed. That is not true, for partial resection of the ovary has been done in many cases, and hydrosalpinx can be opened and drained better than by the abdominal route. (4) Strict asepsis cannot be carried out. The vagina can be rendered as aseptic as the abdominal wall; when purulent liquid escapes into the peritonæal cavity it can be removed by sponges mounted on clamps, and drainage being more perfect, there is less danger to the patient than when this accident occurs during an operation through an abdominal incision. (5) The possibility of a vaginal enterocele. The writer's experience has been in every case that a few months after operation there has remained only an almost imperceptible, firm cicatrix behind the cervix through which it would be impossible for the intestines to form a hernia. In some cases the combination of the posterior incision with anterior colpotomy will facilitate matters. Every colpotomy should be considered somewhat in the light of an exploratory incision, and where it is found that peculiar circumstances render an abdominal operation necessary, the vaginal incision is easily closed and the other operation may be proceeded with.

Hysterectomy for Myoma in America.

ERNEST W. CUSHING (*Boston Med. and Surg. Jour.*, August 23, 1900) says that in the development of the operation of hysterectomy America has had a large share, both by original inventions and by adopting and perfecting the work of Continental and British operators. The first successful hysterectomy, made owing to a mistaken diagnosis, was performed by Burnham in 1853, and in the same year Kimball performed a successful and intentional hysterectomy. The history of the development of varied methods of operation by American surgeons would require great space, but the changes in methods may be briefly summarized as: (1) Entire abandonment of the extra-abdominal treatment of the stump by *serrenœud* or rubber ligature. (2) The wide trial and substantial rejection of vaginal hysterectomy as the choice in cases of myoma and salpingitis. (3) A tendency to preserve the cervix uteri, as compared with total extirpation of the uterus. (4) Growing similarity in the method of operation. (5) The disuse of drainage whenever possible. (6) The performance of the operation by general practitioners in hospitals in small towns, bringing it within the reach of all.

The great feature in the reduction of the mortality has been the recognition of the necessity for cleansing not only the abdominal wall and vagina previous to operation, but the uterine cavity also. Total hysterectomy should be performed (1) when the cervix is enlarged or diseased; (2) when the cervical canal is suppurating or septic; (3) when there is any suspicion of malignant disease, and (4) when vaginal drainage appears desirable. But in general it is better to leave the cervix because it makes the operation shorter and easier, gives less chance of hæmorrhage during the operation, and does not open up so much cellular tissue for oozing and decomposition of blood after the operation. There is also somewhat less chance of infection where only the small cervical canal is cut across and instantly closed by the double tenacula than when the whole vault of the vagina is opened. Since the vaginal portion of the cervix is a seat of sexual feeling it is worth preserving on that account, and women do not feel as mutilated if the cervix is present. A better support to the pelvic contents is formed by the lower parts of the broad ligaments together with the cervix than by the simple union of the vault of the vagina.

Kelly's method of cutting across the cervix, or Pryor's of removing it wholly, before securing the second uterine artery have the advantage of rapidity and renders the removal of any masses at one side easier.

but in the hands of a beginner in hysterectomy the tying of the arteries of the round and broad ligaments and the uterines on either side before dividing the cervix or removing it is much safer.

The Psychoses of the Menopause.

JOHN B. CHAPIN (*Phila. Med. Jour.*, August 25, 1900) says that it is an error to suppose that the psychoses or insanities that appear at the menopause have special mental characteristics that are present only in women at this period of their lives, or that they differ from mental attacks at other periods of life, or in the opposite sex. As the brain structure and cells, and the manifestation of various forms of insanity in each sex are similar, and when acted upon by like causes the results are the same, it may be concluded that when insanity appears it has been induced by some lowered state of the general bodily health, the quantity and quality of blood sent to the brain, and the degenerations proceeding from trophic changes, rather than by the absence or possession of any one of the organs of reproduction having only a sympathetic relation with mentalization. Clinical experience has shown that the risk of insanity at the menopause has been largely exaggerated, and is limited mainly to those who have a neurotic or mental heredity, and those who at the period of adolescence or during the menstrual life have had attacks of insanity. Of the assigned causes of insanity in 8320 women admitted to hospitals, only 188 became insane at the menopause. The statistics of the Pennsylvania Hospital show that between the ages of 45 and 55, covering the usual period of the menopause, 975 men and 876 women were admitted to the hospital. In a paper entitled, "An Analysis of 3000 Cases of Melancholia," prepared by S. Weir Mitchell, it is shown that the exact percentage of cases between the ages of 45 and 50 was for men, 20⅕; for women, 21⅗, or practically no difference in the sexes. The dread or risk of insanity at the approach of the menopause in a woman ordinarily of sound mental and physical health and inheritance has no better foundation than a popular delusion based on borrowed fears.

New Method of performing Trachelorrhaphy.

P. C. PALMER (*The Med. Herald*, September, 1900) says that, as a rule, cases of lacerated cervix are brought to the surgeon rather late in their history, and in many instances a preparatory operation is advisable to overcome existing complications. Granular excrescences must be removed, cystic sacs opened, and their contents emptied, and

superflous and cicatricial tissues curetted or cut away. At the time of the final operation, after the denuding of the lacerated walls, a Jackson needle is introduced through the anterior lip, at the junction of the vaginal wall and cervix, from before backward, in the median line, and carried down sufficiently far to allow of a suitable suture being thrown into the open eye of the needle, which is then withdrawn, bringing the suture out and leaving it sufficiently long at either end for free use, and with the lower end protruding through the os externum. The needle is introduced in the same manner through the posterior lip, from behind forward, at a point directly opposite the first suture, withdrawing the needle and leaving the suture in position as before. A ring devised by the writer, and suited in size to the case, is slipped over the sutures and around the cervix, the sutures are tied after being crossed in the cervical canal, holding the ring firmly in place and making uniform pressure upon the entire circumference of the cervix, holding in coaptation the edges of the laceration. In cases of multiple lacerations one suture should be placed in each division. The advantages of this method are (1) the small number of punctures and sutures required; (2) the time saved in the operation; (3) the cutting and embedding of the sutures when the parts become swollen, as the parts do not swell as in the ordinary operation. The ring may be made of hard rubber, or of spiral wire flattened and covered with rubber. The latter will overcome undue pressure when swelling occurs, and will adjust itself when the swelling subsides.

In some cases it is best to transfix each lip, near the lower extremity, at the border of the ring, and inserting the needle from without inward, bring the sutures through and tie as before. The writer has obtained a much better percentage of perfect results from this method than from the old method of trachelorrhaphy.

Myomectomy during the Sixth Month of Pregnancy—Recovery.

EUGENE R. LEWIS (*Amer. Jour. of Surg. and Gyn.*, September, 1900) says that from the literature at his command, and from correspondence with a number of prominent surgeons and physicians, it seems probable that the case reported below is the first successful myomectomy upon the pregnant uterus. The patient was a primipara, 27 years of age, brought to the writer in consultation. She was in the sixth month of pregnancy and suffering greatly from extreme distension of the abdomen. A tumor, as large as an orange, could be felt superior and anterior to the tube on the right side, and the abdomen was opened in the belief that the tumor was tubal in origin.

A nine-inch incision in the linea alba allowed the extrusion of the gravid uterus and its appendages. The tumor was a solid fibroid, imbedded in and projecting from the uterine wall. The walls of the uterus were very thin except at the site of the tumor, and the fœtal movements could be plainly seen and felt. The gravity of the situation was realized, but as hysterectomy under the circumstances had all proved fatal, it was decided to attempt the removal of the tumor. An incision in the muscular wall of the uterus, five inches long, was made over the dense tumor, which was shelled out as rapidly as possible. There was free hæmorrhage, but it was controlled by very deep sutures. The opening in the uterine wall was closed with interrupted sutures and covered with a strip of iodoform gauze, one end of which was carried out through the abdominal incision. This gauze was removed on the fourth day, and twenty-five days after the operation she went to her home, fifty miles distant, where three months and a half from the date of the operation she was delivered of a healthy child after a normal labor.

A Pin in the Vermiform Appendix simulating Tubo-ovarian Abscess.

H. G. WETHERILL (*Colorado Med. Jour.*, September, 1900) reports the case of a woman who was brought to him for consultation and operation with the following history: She had been married 17 years, had one child 15 years old, no miscarriages, occasional leucorrhœa. For fifteen years she had suffered from pain in the right inguinal region with frequent severe exacerbations. During these attacks there was localized tenderness and bloating of the abdomen. Her general health had become very poor. Examination revealed a mass on the posterior aspect of the right broad ligament, very sensitive, firmly fixed and immovable. The other pelvic organs seemed normal. There was no pain at McBurney's point but great pain and tenderness in the right inguinal region below the level of the anterior superior-spinous process. A diagnosis of tubo-ovarian disease was made and oöphorectomy advised.

The patient was anæsthetized, a suprapubic section made, and the bowels pushed up out of the pelvis. The uterus and appendages on the left side were normal. On the right side the vermiform appendix hung over the pelvic brim, dipping down into Douglas' cul-de-sac; its distal end was adherent to the right broad ligament below the ovary, the ovary, the fimbriated end of the tube, and the appendix being united by firm adhesions. The ovary was normal except for a small cyst, half an inch in diameter, and the tube was healthy but

bound down by the plastic exudate. From the distal end of the appendix a corroded pin protruded. There was also a perforation in the appendix about an inch from the end. The appendix was amputated and the tube and ovary removed on account of the adhesions. The appendix was five and a half inches long, and this fact, together with its unusual situation, had lead to the mistake in diagnosis, the point of perforation being far removed from McBurney's point.

CANADA.

A Case of Incarcerated Ovary.

HORACE C. WRINCH (*Canada Lancet,* August, 1900) reports the case of a single woman, twenty years old, who developed a hernia in the left groin after violent exercise. The pain was severe at the time and returned at frequent intervals; menstruation sometimes intensified it. Severe headaches and nervous symptoms developed, and for eighteen months previous to admission to the hospital there had been frequent and distressing vomiting which lavage failed to relieve. For two months she was kept absolutely at rest in the hospital on a careful diet with only slight improvement in the symptoms. It was decided to perform a radical operation for the cure of the hernia; this was done, and within the hernia sac and adherent to it were found the left tube and ovary. The ovary was small and misshapen, and was removed, together with the tube. The operation was completed in the usual way. The patient was put on a full diet after the fourth day and has had no return of the gastric disturbance. Thirty days later she left the hospital with only slight nervous symptoms remaining.

GREAT BRITAIN.

On cleansing the Peritonæum during Cœliotomy.

N. T. BREWIS (*The Scottish Med. and Surg. Jour.,* August, 1900) says that irrigation is the most generally approved method for removing contaminating discharges from the peritonæal cavity, but even this is open to the danger of spreading infection among the intestines in case of the rupture of a pus-sac. No matter how carefully the part operated upon is shut off by gauze from the general pelvic cavity, it is not absolutely safe to irrigate. A plan followed until recently by the writer was to use swabs of gauze soaked in water and with them to carefully mop out the pelvis; but this method is lacking in thoroughness. A plan recommended with all confidence is as follows: The

instant that pus escapes from a ruptured sac cover it with a large gauze pad and pack off the general peritonæal cavity carefully and thoroughly with gauze. Remove the diseased structures. Then introduce a long pair of forceps or blunt scissors into the vagina, pushing the points through the posterior fornix into the pouch of Douglas and separating the handles widely to enlarge the opening. Lower the pelvis and irrigate the cavity from above, introducing the end of the douche into the abdominal wound. The stream of water or normal salt solution washes out the pelvis, escapes through the opening in the cul-de-sac, and out at the vulva. A speculum placed in the vagina facilitates the flow. A packing of iodoform gauze is introduced into Douglas' cul-de-sac, the lower end being in the vagina. This checks oozing and supplies drainage. The gauze may be removed on the sixth or seventh day.

A Case of Osteomalacia showing the Effect of Oöphorectomy in checking the Elimination of Phosphates by the Urine.

E. O. CROFT (*The Lancet,* August 25, 1900) says that the knowledge of the ætiology of osteomalacia is so slight that it is impossible to give any satisfactory explanation of the action of removal of the ovaries in improving the condition of these patients. Curato and Tarulli suggest that the internal secretion of the ovaries has the power of oxidizing compounds of phosphorus such as exist in bones, so that after the removal of the ovaries there is an increased deposit of calcium and magnesium phosphate in the bones, which thus become stronger. Rossner found hypertrophy of the vessel walls with extensive hyaline degeneration in the ovaries which had been removed in three cases of osteomalacia.

The case reported was a married woman of thirty-five who had borne one child, two and a half years ago. There was no history of rickets, syphilis, or other general disease. Menstruation was irregular, painful, and scanty until the birth of her child; since then it had been regular and painless. When about six months pregnant with her child she began to have difficulty in walking and great pain in the back and sides. She had a tedious labor at full term, and was delivered by forceps of a healthy child. The pain in the back increased, but she could walk from 200 to 300 yards without help, but not without great exhaustion. When first seen there was tenderness over the spinal column, ribs, sacrum, and pelvis. The symphysis pubis was prominent, the pubic arch much narrowed, and the ischial tuberosities brought nearer together than usual. Rest, tonics, and drugs to relieve pain

were ordered and the patient improved and left the hospital at the end of a month, not being seen again for nearly a year. She was then unable to walk or stand alone and even turning in bed or reaching caused great pain in the back, thighs, and lower ribs. The pelvic deformity had greatly increased. The pubic arch was so narrowed that, together with the tuberosities, it formed a slit-like space scarcely more than a quarter of an inch apart. The sacrum presented an excessive curve. A skiagraph of the pelvis was taken but was indistinct. A month after admission the urine was tested to ascertain the amount of phosphates present; the total amount of phosphoric acid per diem was 29.74 grains. Double oöphorectomy was performed; the recovery was normal. During the four weeks following the operation the patient gradually improved; the pain was so much less that no opiates were required, and she could move with less pain and difficulty. A month after the operation the urine was tested again, the patient having resumed her ordinary diet. The amount of phosphoric acid in a day was 19.25 grains, but as the urine had increased in amount from 40 to 55 ounces in twenty-four hours, there was really a diminution of between 20 and 30 grains of phosphoric acid per diem. At the date of this report, two months after operation, there had been steady although not rapid improvement.

Australasia.

Fatal Septicæmia after Excision of Carcinoma of the Breast.

H. G. Chapman (*Intercolonial Med. Jour. of Australasia,* August 20, 1900) reports the case of a married woman who was admitted to the hospital complaining of a lump in her left breast. It had first been noticed six months before and had increased to the size of a hen's egg, but without pain or discharge from the nipple. The tumor felt stony, was not adherent to the skin, and moved easily on the pectoral muscle, along which enlarged glands could be felt extending as far as the axillary vessels. The heart, lungs, and urine were normal. The liver dulness was slightly increased upwards. The breast and the glands were removed *en masse* through an elliptical incision extending up into the axilla. A drainage-tube was inserted through a small incision in the axilla, the wound closed by silkworm-gut, the skin being approximated by horse-hair. A wet sublimate gauze dressing was applied. The patient rallied well and the temperature remained normal. On the third day she vomited some, but this soon improved. The drainage-tube was removed and the wound dressed on the fourth day. There

was no oozing and the wound looked healthy. The silkworm-gut sutures were removed on the sixth day. That evening the patient suddenly became almost pulseless and the temperature fell to below 95° in the axilla. The abdomen was flaccid, the lungs normal, and the wound looked well. Hot saline enæmata were given and persistent stimulation, but she remained in this condition for four days, occasionally rallying when the temperature rose to 98°, but soon collapsing. The urine was very slightly albuminous. Transfusion on the tenth day caused slight improvement, and as the wound was healed the remaining stitches were removed. The patient gradually sank and died on the following day. At no time had the temperature been above normal. Autopsy revealed a thin layer of fœtid pus under the wound. There were hæmorrhages beneath the pleura and the lungs contained circumscribed patches, evidently septic, but not yet softened. In the liver was a necrosing hydatid packed with daughter cysts. The spleen was softened, but the kidneys were normal. The wound had never looked red or inflamed, and vomiting and restlessness had been the only symptoms. There had been no septic case in the hospital or in the operator's private practice, so that the cause of the sepsis was unknown.

PÆDIATRICS.

United States.

Significance of the Stool in Infantile Diarrhœas.

Wm. Edgar Darnell (*Med. News*, July 7, 1900) says that a systematic and careful examination of the stools day by day is the most important feature in treating summer complaint, as their appearance, consistency and number are the actual index of the conditions present. The mother's lack of scientific training precludes her knowing about the details sufficiently to give a satisfactory account. There is usually a history, in cases of indigestion, of irritability, loss of appetite, vomiting, while the stools become thinner and more frequent. The mother endeavors to quiet the child by increased food, and the movements become thin as water, yellow or muddy brown, and offensive. Later they become colorless and watery, and unless soon checked the child will die. A dirty-colored stool tells of infected masses of imperfectly digested food. The green stool, acid in reaction, and accompanied by colic, indicates too great a percentage of carbohydrates in the food. Most to be dreaded are the watery movements containing

small specks or masses of light pea-green color. They are often seen in the later stages of marasmus. While mucus is always present in the fæces it is not visible except when abnormal in amount. When present it indicates an inflammatory condition of the alimentary tract. If bile-stained, it indicates trouble in the small intestine. White, jelly-like masses of mucus, attended with pain and tenesmus, indicate trouble in the colon or rectum. Where the disease has been long continued, shreds of necrosed epithelium in perfect strings will come away. Whitish or grayish-white stools of putty-like consistency are composed largely of undigested fat, and indicate almost total inactivity of the liver function. Dry, pasty and lumpy stools result largely from an insufficient quantity of fat in the diet.

Too much care cannot be given to the hygiene of bottles, napkins, bathing and dress. The treatment consists in elimination, disinfection, and feeding. The first cause of these troubles in indigestion, with retention and decomposition of food in the alimentary tract, causing auto-intoxication. Stop all food for a day or two, using barley-water or plain sterile water to relieve thirst. Teaspoonful doses of equal parts of castor oil and aromatic syrup of rheubarb will rid the bowel of offending matter, and antiseptic action will be obtained by tenths of calomel and quarter-grain doses of salol. Bismuth may be combined for its sedative effect. If the stools are serous grain doses of Dover's powder may follow each loose movement. Stimulation with brandy may be given for great relaxation, or morphine in one-hundredth-grain doses combined with one five-hundredth of atropine. In persistent cases a daily high irrigation of normal salt solution or warm water will be of great service.

The matter of diet is the most difficult to settle. Pasteurized milk with a low percentage of proteids and fats may be started on, and tne percentage increased as the digestion improves. It may be necessary to peptonize the milk for very weak infants. While not all can patronize the expensize laboratories, any mother can approximate the percentages in home modification of the milk. This process is made comparatively easy by the use of the so-called Materna, introduced by Dr. Holt.

Infant Feeding.

A. Jacobi (*Jour. Amer. Med. As.*, July 28, 1900) in a discussion on the feeding of infants at the annual meeting of the American Medical Association, held at Atlantic City in June, 1900, said that every speaker had told positively what must be done, and the advice had been

different in every case. One thing was certain, milk that had been separated into its constituent parts could never be restored to its former state by mixing the separate portions together again. While much good has been done with boiling, sterilizing, and pasteurizing, yet there is danger of overdoing theories. The main point is to secure good milk to begin with, and mix it in the proportions that have been found satisfactory from experience. Dilution with cereals is, in the writer's opinion, the best plan. Fortunately, Nature allows more latitude than the theories of doctors; mother's milk varies from day to day, and even from morning to evening, and in the stools of breast-fed babies you will find from 5 to 10 per cent. of fat; this, occurring in bottle-fed babies, seems to be regarded as a danger-signal. "If it were so very dangerous to have half an ounce, more or less, and a little bit of sugar or water, more or less, there would not be a child in creation living." We should try to feed the child and not try to work out mathematical formulæ to which the child must be made to conform.

Perforation of a Tuberculous Bronchial Lymph Node into the Trachea; Sudden Death.

A. CAILLÉ (*Archives of Ped.*, August, 1900) reports the case of a child four years old who was admitted to the babies' ward of the Post-Graduate Hospital, with a diagnosis of bronchitis. There was no fever, pain, or dyspnœa, and the heart and kidneys were normal. A few râles could be heard over the sternum. The day after admission, while playing in the ward, she suddenly complained of pain in the neck and became cyanotic and asphyctic. As a large caliber O'Dyer tube did not relieve her dyspnœa a low tracheotomy was also performed, but the obstruction was evidently in the lungs and she died in a few minutes. The autopsy showed that both bronchi were plugged with cheesy material which came from an abscess cavity situated above the bifurcation of the trachea. This had ruptured into the trachea. There had been no symptoms whatever pointing to such a condition. The abscess was found to be tubercular in origin, but no other tubercular foci could be found in the body.

Convulsions in Children.

WM. A. DICKEY (*Cleveland Med. Gaz.*, August, 1900) says that the causes of convulsions in children may be divided into two classes—predisposing and exciting. The lack of co-ordination existing in the infantile system renders children more liable to convulsive seizures when attacked by diseases of various kinds; moreover, there is often

an especially unstable nervous system inherited by the children of neurotics, alcoholics, epileptics, or syphilitics. The exciting causes include indigestion, overloaded colons, and the consequent absorption from the alimentary canal of ptomaines; intestinal parasites, adherent prepuce, diphtheria, and pneumonia when accompanied by hyperpyrexia, rickets, brain tumors, meningeal hæmorrhages, and hydrocephalus. In acute infectious diseases a convulsion often takes the place of the initial rigor. The cause so often assigned for convulsions—dentition—is, in the writer's opinion, never alone responsible for a single convulsion.

While the treatment must be directed toward removing the exciting cause, yet in most cases the physician must treat the eclampsia in ignorance of the cause, and the same measures, to a certain extent, apply in most cases. The time-honored procedure has been to immerse the child as soon as possible in a tub of hot water to which mustard is often added. In most cases this is most unscientific treatment. A child with convulsions usually has a temperature ranging from 103° to 106° F. In what other condition than a convulsion would a child with such a temperature be placed in a hot bath? The first step is to use a thermometer, and while it is registering endeavor to gain some idea of the recent diet and history of disease. When the temperature is 103° or more, and the extremities not cold, a hot bath is never indicated, but instead a cool or cold sponge-bath or pack is to be used. The injection of cold water into the rectum is also beneficial. Inhalations of chloroform may be given during the paroxysm by a competent person. If the seizure is due to undigested food the stomach-tube or an emetic should be used, accompanied by an enæma of warm soapsuds. Two grains of chloral hydrate with five of sodium bromide may be given by mouth to a child one year old, or twice that amount by rectum. The coal-tar preparations are useful in some cases, but should never be used after the subsidence of the fever. Calomel should always be given. Affections of the brain, adherent prepuce, or the like do not come under these directions. Where the temperature is very high the child should be placed in a cold bath, brisk friction of the body being kept up. Inspiration will become deeper, the heart will be given tone, and the kidneys and skin will be aided in their work of elimination.

Congenital Tuberculosis.

BENJAMIN F. LYLE (*Phila. Med. Jour.*, August 4, 1900) reports the case of a woman, seven and a half months pregnant, who was admitted to the Cincinnati Hospital for Consumptives. She had been suffering

from cough, fever, hemoptysis, and night-sweats for over a year, the hæmoptysis dating back fully two years. She was much prostrated and usually delirious. Two weeks after her admission she gave birth to a child. How long the labor lasted was not known, for although she was in a ward with other patients she gave no indications that anything unusual was occurring until the crying of an infant was heard. The placenta came away naturally and looked normal. The woman lingered in a somnolent condition until her death two days later. The child weighed 3½ pounds and was always very weak. Its weight increased slowly for eight weeks, then decreased somewhat until death. During the first four weeks the temperature varied from 96° to normal, the latter being the evening temperature. After that there was hyperpyrexia until the last week of the child's life. Death occurred during the tenth week. Post-mortem showed that the lungs were filled with myriads of minute caseous tubercular deposits, some of which had coalesced. The spleen and liver contained an equal quantity of similar deposits, and there were a few caseous deposits in the cortical substance of the kidneys. The masses contained tubercle bacilli. Intestines and mesenteric glands were normal. The disease must have been congenital for the child was kept away from the wards and could not have inhaled the germs, while the freedom of the intestines and mesenteric glands from the disease shows that it was not contracted through the milk. The temperature curve was characteristic of tuberculosis. The enormous number of deposits in various organs, all in the same stage, indicates a synchronous infection through the blood of the child. The only source of infection could be the mother's blood.

The Treatment of Summer Diarrhœa in Infants.

CHARLES GILMORE KERLEY (*Med. News,* August 4, 1900) says that this comprehensive term, summer diarrhœa, covers the subject better than any other. A classification based upon the appearance of the stools is impossible, as changes take place from hour to hour, and the age, diet, duration of illness, and nature of infection all produce variations. A classification based upon lesions is possible only by autopsy, and, moreover, there are no lesions at the onset of the illness. Bacteriological examination of the stools, the only true basis of classification, is not in the reach of physicians attending the majority of these cases. That the trouble, varied in its manifestation, is due to infection by virulent organisms all will admit. There may be direct infection through contaminated food or infected feeding apparatus; the acute cases of so-called cholera infantum are due usually to direct

infection. Unsuitable or improperly-given food furnishes a culture-field in the undigested contents of the intestines, and excessive heat plays an important part in auto-infection by depressing the bodily functions, so that the natural disinfectants of the gastro-intestinal tract (the bile and digestive juices), are decreased, and the pathogenic organisms present in the intestine have an opportunity for growth. Summer diarrhœa has no tendency to get well if left to itself, but should be treated vigorously upon the appearance of the first symptom. Autopsies show that the lesions increase in extent and severity with the duration of the disease. The treatment consists in eliminating from the digestive tract the bacteria and their products, and in giving nourishment which will not furnish a medium for their development. Where the case is seen early a teaspoonful of castor oil, or one grain of calomel in divided doses should be given. Where vomiting exists neither oil nor calomel should be given until change of diet and stomach-washing have stopped the vomiting. In all cases a milk diet must be immediately discontinued, no matter whether the child is breast or bottle-fed. In some cases the child cannot resume a milk diet for weeks, in others an abstinence of twenty-four hours is sufficient.

Where there is vomiting with the diarrhœa the stomach must be washed, and after three hours a teaspoonful of water may be given. If this is retained it may be repeated every fifteen minutes for twenty-four hours, and then an equal amount of dextrinized barley water may be substituted; the amount and the time between each feeding may be increased according to the toleration of the stomach. Feeding by gavage must be resorted to in case the water is persistently rejected. Where there is diarrhœa only there may be added to the dextrinized barley water, chicken, beef, or mutton broth or liquid peptonoids. If this prove laxative the addition of the broths must be discontinued. Boiled water may be given to quench thirst. Milk must not be resumed until the movements have become normal in appearance and not more than three in number in twenty-four hours, and then the strength of the milk must be reduced to one-third or one-fourth the usual strength. The writer thinks that the so-called intestinal antiseptics and the new astringents possess no advantages over the older drugs, bismuth subnitrate (Squibb's) and opium. Opium should be used in small doses and only in those cases where the stools are large and watery or very frequent. Where the stools are few in number but very foul and there is prostration and stupor, bowel irrigation, calomel, and castor oil and the stopping of feeding for a time are sufficient. Where a heart stimulant is needed strophanthus, strychnine, and digitalis are much better

than alcohol. Rectal irrigation is more especially indicated where the stools are very offensive or contain blood and mucus. Where the discharges are frequent and watery, irrigation is not especially indicated. Hot water enæmata act as an excellent stimulant when the vitality and temperature are low.

The mother or nurse should exercise most scrupulous care in washing the hands before preparing food or handling the feeding apparatus, as reinfection may readily take place.

The Use of the Diphtheria Antitoxic Globulins of the Blood-serum instead of the Entire Serum in Diphtheria.

WILLIAM H. PARK (*Pædiatrics*, August 15, 1900) says that ever since the discovery of the value of diphtheria antitoxin it has been the desire of those using or producing the serum to separate the diphtheria antitoxin from the blood serum, hoping that the antitoxic effect might be retained, while the deleterious effects sometimes produced might be avoided. Investigation showed that the antitoxic substances in the blood were closely combined with the globulins of the blood, and whatever precipitated the latter precipitated the antitoxin also. Without globulin there appears to be no antitoxin, and wherever antitoxin exists globulin does also. No difference has yet been discovered between the antitoxic globulin and that which is not except in its action. At the Research Laboratory of the Health Board of the City of New York blood is drawn from the horses before they receive injections of toxin. This so-called normal blood and the later drawings of antitoxic blood are tested for the amount of globulin and the amount of antitoxin. These tests have proved the constant association of globulin with antitoxin and the constant fairly proportional increase or decrease of the globulin in horse's blood with increase or decrease of antitoxin. It was decided to test this antitoxic globulin in cases of diphtheria in place of the blood-serum entire. The globulin with its antitoxin was precipitated from the antitoxic serum by saturating it with magnesium sulphate and filtering it off. The globulin was pressed between layers of filter-paper to remove as much of the magnesium sulphate solution as possible. The globulin and remaining magnesium sulphate were then dissolved in water equal in amount to one-half the original amount of serum. The magnesium was precipitated out as magnesium sodium phosphate and the filtrate contained all of the globulin and all of the antitoxin together with about 10 per cent. of the sodium sulphate and a trace of sodium chloride. Each cubic centimeter of the fluid contained twice as many units as the

original serum. In practice this was diluted to one-half strength to prevent local irritation. Forty-eight cases of diphtheria were treated by this antitoxin with the following results: Locally, in about one-fourth of the cases there was local œdema with slight pain—rather more than the ordinary serum produces. The rashes were similar to those following the use of the serum and the effect upon the diphtheria equally good to that obtained by serum.

The dried globulin has retained for two months the greater part of its antitoxic qualities, is easily soluble, and can be readily put up in tablets and transported without danger of deterioration; this gives it some practical advantages, but as a whole the results were disappointing, as this antitoxic globulin seemed to retain the substances which cause the deleterious effects of the blood-serum, and as there seems no possibility of separating the antitoxic properties from the globulin, the present prospect of a substance absolutely harmless and yet a specific in neutralizing diphtheria is not encouraging. The same is probably true for the other protective serums.

Two Cases of Fatal Lead Poisoning.

ALLEN BAINES (*Ibid.*) reports the cases which occurred in a family where the meals had been cooked with firewood obtained from old barrels which had contained white lead, so that the fumes of lead not only entered into the food, but permeated the atmosphere. The father and a young infant escaped the toxic effects; the mother had lead colic and the usual characteristic symptoms, while two children, one two and a half, the other five and a half, were fatally poisoned. No history was obtained of the case until the day of the younger child's death, and the symptoms so closely resembled basilar meningitis that it was treated as such. One symptom, not therefore recorded, was pronounced in both cases, *viz.:* a dark-blue circle about the anus. The younger child had one convulsion at the close of the week, in which the leaded wood was burned, but recovered from that and seemed perfectly well for two weeks, when he was again seized with convulsions and became practically unconscious. There was a history of constipation. The reflexes were abolished, the pupils dilated but equal, pulse slow, breathing slow, deep, and very irregular. The temperature rose slowly to 103.3° on the fourth day, the day of his death. The convulsions continued, most of them being general, and epileptiform, but some were unilateral. Strabismus was marked the day before his death, and the convulsions followed one another in rapid succession up to within an hour of his death. The cardiac centers failed first, the breathing going

on in long inspirations, ten to twenty seconds apart, for four minutes after the heart ceased to beat. The second child became ill two weeks after the death of his brother, and lived the same time after the first convulsive seizure. The urine was found to contain lead. No post-mortem could be obtained on the first child, and that on the second child showed nothing markedly abnormal. Cultures from the liver, kidney, and spleen showed no growth. Cultures from the brain showed numerous small, raised, discrete colonies, white or pearly. Cultures from the lungs showed a yellow colony containing staphylococcus, and a white raised colony containing a diplococcus similar to that found in the brain, strongly resembling the micrococcus lanceolatus. Mice inoculated with a forty-eight hour blood serum culture of the white colonies from lung remained quiet for twenty-four hours, then seemed well and active until the third day, when they died after spasms of the hind legs. A mouse inoculated from the brain-culture remained in a healthy condition.

Causation and Relative Frequency of Typhlitis, Perityphlitis, and Appendicitis in Infancy and Childhood.

Joseph Henry Byrne (*Pædiatrics,* August, 1900) says that it is now generally conceded that inflammation of the cæcum has little or no part in the production of appendicitis; that few cases of typhlitis exist as a primary disease, and that perityphlitis only occurs as a secondary complication. Inflammation of the large or small intestine has little tendency to involve the peritonæum, while the opposite is the rule with an inflammed appendix, and it is easy to see how the inflammatory process extends to the serous coat of the neighboring parts. In 586 autopsies after perityphlitis Renvers found the appendix ruptured in 497 cases. The gastro-intestinal tract is frequently the seat of inflammation during infancy and childhood, especially in warm weather, and if such conditions give rise to appendicitis it would be most common in the summer, but such is not the case. Appendicitis is rather uncommon before the fourth year, increasing in frequency with age, the majority of cases in children occurring between the ages of ten and thirteen. The appendix varies more in size, position, and general make-up than any other structure. In early life it is very rich in lymphoid tissue, the blood-supply is easily interfered with, and as it is a functionless organ with a low degree of vitality, it is susceptible to inflammatory disturbances. The appendix is relatively larger in fœtal life and childhood than in adults, it reaches its maximum size between the tenth and twentieth vear, and after it undergoes retrogression

and its vascularity diminishes. Only about 15 per cent. of the cases of appendicitis occur prior to the fifteenth year. In early life the mucous membrane of the appendix possesses wonderful powers of absorption, and this in itself is a predisposing cause of disease. Constipation and diarrhœa are minor ætiological factors. Exposure is a possible cause, but a case in a child due to this cause has never been reported. A pendant position of the appendix favors the ingress of fæcal matter, while the egress is hampered, thus concretions are more readily formed. Any curving or twisting of the appendix interferes not only with the escape of any fæcal matter but interferes with the blood-supply of the structure. Strictures of the appendix are rare in children but have been found in young infants and even in the newborn. Typhoid and tubercular ulcers of the appendix have been found upon autopsy. When the glands of this structure are involved during an attack of typhoid the process of healing may cause a stricture. Foreign bodies do not play the important part that they were formerly supposed to; when they are present they act either as a mechanical obstruction, or as irritants, producing catarrhal inflammation and facilitating the invasion of micro-organisms. Traumatism may cause inflammation. Micro-organisms of various kinds are active exciting agents, the bacillus coli communis being the germ most frequently found.

The writer reports a case of a child ten years old, with an exceedingly thin abdomen, in whom the appendix could be distinctly mapped out in an attack of acute appendicitis. About one inch from the distal end a small, hardened mass could be felt, which was manipulated with the fingers towards the intestine. Twenty-four hours later the tenderness had disappeared, the temperature was normal, and the concretion could not be felt. Cases that could be relieved in this manner are necessarily few.

The Bloodless Treatment of Congenital Dislocations of the Hip-Joint.

Adolph Lorenz (*St. Louis Med. and Surg. Jour.*, September, 1900) says that the bloodless operation is preferable to the operative, for the latter has been fatal in a small number of cases. The ankylosis and contractures which frequently follow require a tedious after-treatment. The injury to or the extirpation of the Y-shaped cartilage of the acetabulum may result in the after-deformity of the pelvis, owing to disturbances in development.

The bloodless treatment by portable apparatus, and the gradual reduction of the head of the femur by means of bed extension is only

successful in very young children, but the treatment is tedious and the confinement is detrimental to the general health.

Bloodless reduction under narcosis overcomes these difficulties and is without danger under the proper age limits. The limit for unilateral dislocations is the tenth year; for double dislocations, the eighth year. Ankylosis and contractures do not occur. The reduction may be performed over the upper rim of the acetabulum by horizontal extension, or over the posterior rim by vertical extension. The latter procedure is preferable, as the stronger development of the posterior rim allows the success of the reduction to be more readily recognized. This reduction is performed without instruments in the following manner:

First, the tense adductor muscles are torn subcutaneously in forced abduction by pressure and stretching.

Second, the thigh, flexed to a right angle, is stretched vertically with the hand and abducted 90°, pressure being made upon the trochanter at the same time. The success of this reduction can be verified by the radiograph.

The principle of the after-treatment consists in centering the weight of the body upon the base of the acetabulum, the base of the acetabulum resting upon the reduced head of the femur. Functional irritation causes the acetabulum to become wider and deeper, especially by the building out of its upper rim. To keep the head of the femur within the acetabulum the thigh is fixed in extreme abduction and slight over-extension for about five months. Then the thigh is again rendered immobile for four months more in a medium position, slight flexion and lessened abduction. During this period the child must be kept up and about as much as possible. The final treatment consists of gymnastics and massage, especially of the pelvi-trochantèric muscles, without any mechanical supports. The radiograph shows in many cases a complete anatomical restoration of the hip-joint, and an ideal cure has been attained for the acetabulum has been concentrically widened and deepened by the body pressure. In another class of cases the acetabulum is eccentrically widened at its upper extremity by the formation of a new bony upper rim. In still other cases the head of the femur cannot be retained within the pan, the latter remaining unchanged and an anterior superior dislocation resulting, so that the anterior crest of the ilium engages the head of the femur. The present statistics show good results in about one-half of the cases. In the other half the functional result in regard to endurance and symmetry in locomotion has been excellent even when the anatomical result has not been perfect. The pathological lordosis of the double disloca-

tion disappears entirely. Where the reduction is unsuccessful, operative reduction by arthrotomy can be performed, leaving the acetabulum intact. The after-treatment can then be carried out as above.

Enteric Fever in Children.

A. D. BLACKADER (*Archives of Ped.*, September, 1900) wishes to give a brief statement of some of the characteristics of typhoid fever as seen in one hundred cases under fifteen years of age, the relative frequency of the various symptoms, and the results of treatment. Typhoid fever in infants and yound children is generally regarded as of rare occurrence, vague symptomatology, and difficult diagnosis. The more exact methods now at hand for determining the presence of the typhoid bacillus will remove the difficulty in diagnosis, and all cases of continued or remittent fever in children, unaccompanied by any localized disease, should be carefully investigated. It is probable that typhoid in children is more common than has been suspected. After the age of fifteen the disease assumes the usual type met with in adults, but under that age the symptoms are usually milder and the duration shorter. In thirteen cases the *onset* was sudden, children in apparent good health developing well-marked symptoms of the disease in a few hours. In each of these cases there was a sudden gastro-intestinal disturbance attributed at the time to some indiscretion in diet.

As to *initial symptoms,* headache was present in 83 per cent., vertigo in 22 per cent., anorexia in 49 per cent. In eighteen cases vomiting occurred but did not persist after the first day. Looseness of the bowels was noted in 36 cases, while 10 had distinct diarrhœas. The diarrhœa persisted, so as to need medication, in only four cases. Constipation was present in 59 cases, requiring rectal injections. Abdominal distension was noted in the beginning of the disease in 48 cases, and abdominal pains were complained of in 33 cases. Epistaxis occurred in 23 cases. A slight convulsion occurred in an infant of two years and eight months. A resemblance to Wunderlich's ascent in temperature was noted in only 8 cases, but this was perhaps due to the fact that accurate records of the temperature range for the first few days was kept in only a few instances. After the first week, in the majority of cases, the temperature became markedly remittent. During the third week the extreme ranges gradually subsided or more or less abruptly ceased, so that at the end of the third week the evening temperature was not over 99°. A subnormal temperature for several days following the end of the fever is more common than in

adults. In only 19 cases did the temperature reach or exceed 105°, and in these cases the fever persisted for four weeks or more. The pulse was, as a rule, only moderately quickened, but in a few cases it was rapid and dicrotic. Rose spots were noted in 55 cases. Enlargements of the spleen in 78 cases. In 4 cases, 2 of them under ten years of age, traces of blood were observed in the stools, but no severe hæmorrhage occurred. In 19 cases sonorous and sibilant râles were present at the bases of both lungs, and one child had bronchopneumonia. In 22 cases a soft, systolic murmur was heard at base and apex during the second or third week. Nocturnal delirium was present in 18 cases. Restlessness or sleeplessness occurred during the second or third week in 15 cases. In 12 cases drowsiness marked the first week. A paretic condition of the bladder was noted in 3 cases, but in only 5 cases was a trace of albumin found in the urine. Otitis occurred in 4 cases and tonsillitis in 6. Relapses were noted in 15 cases, in 1 case there were two distinct exacerbations. These occurred without regard to the mildness or severity of the case. In 43 cases the Widal reaction was carefully sought for and found in all but 3 cases; 12 gave the reaction before the eighth day, 13 before the twelfth, 12 before the eighteenth, and 6 before the twenty-eighth. Only 1 death occurred—an infant of 13 months, who was admitted to the hospital in a condition of profound depression. Cool or cold baths were employed in the majority of cases. The temperature of the baths varied from 85° to 90°, being reduced to 75°, and in 9 cases the baths were afterwards given at 75° reduced to 68°. Sponging with cold water and the application of ice to the head was used in 30 cases; in 3 a cold pack was used, and in 14 cases the treatment was merely symptomatic. Alcoholic stimulants were used with caution, being used freely in only a few cases. Strychnine was the chief cardiac stimulant employed. Milk, usually modified by some diluent, was the principal food, but careful watch was kept of the stools to avoid overtaxing the digestion. The nervous system of a child responds more quickly to the cool bath, and it is unnecessary and undesirable that as low a temperature of the water should be employed as in adults. Sudden and severe shock should be avoided.

Heroin in the Treatment of Phthisical Cough and Whooping-cough.

M. LOEWENTHAL (*Phila. Med. Jour.*, September 8, 1900) describes heroin as white crystalline powder, not easily soluble in water, but dissolves without chemical change when acetic acid is added. It is a new morphine derivative, less narcotic than morphine, and producing

no disagreeable effects, such as nausea or vomiting. There is sometimes a slight lassitude which quickly passes away. Constipation is occasionally caused by its use, but by combining the drug with aloin or rhubarb this can be guarded against. There is dryness of the throat occasionally, and pruritus was noted in a few cases; both symptoms disappeared when the drug was discontinued for a day or two and did not reappear upon resuming its administration. It acts as a sedative to the cough centers, stimulating the respiratory muscles and centers, increasing the length of inspiration and reducing the number of respirations. The dose for an adult is from $^1/_{12}$ to $^1/_6$ grain. As heroin hydrochloride is soluble in water it can be given hypodermically in doses of $^1/_{24}$ grain. In two cases of pulmonary tuberculosis there was marked improvement, the cough being less troublesome and the dyspnœa decreased. A third case was in the last stage of chronic tuberculosis when treatment with heroin was commenced, and while there seemed to be some relief afforded the patient died in a few weeks after being first seen.

It is, however, its value in pertussis to which especial attention is called. While it is not claimed that heroin is a specific for this disease, yet in one case it acted so, and in nearly every one of ten cases there was marked improvement in the number and severity of the paroxysms, and the duration of the disease was greatly shortened. The dose varied from $^1/_{75}$ to $^1/_{125}$ of a grain according to the age of the child and the severity of the disease. The duration of the treatment was from ten to twenty-one days. In one case, complicated by cerebral hæmorrhages and later by bronchitis, where the vomiting was incessant heroin hydrochloride, $^1/_{100}$ grain, hypodermically, every four hours was administered, and improvement was noted after the third dose. The dose was then changed to $^1/_{80}$ grain three times daily, and continued for three weeks, at the end of which time he had completely recovered.

The heroin may be given in a drachm of raspberry or other fruit syrup.

CANADA.

Impaction of a Bean in the Air Passages.

BRUCE HAMILTON (*British Med. Jour.*, July 7, 1900) reports a case of a boy of 12 who accidentally got a bean, with which he was playing, into his mouth. Coughing and retching occurred at intervals of a few minutes, followed by periods of comparative calm. It was found that no air entered the right lung, but the left acted well. The

heart's action was irregular and a loud systolic murmur was conducted into the axilla. The mucous membrane of the trachea was swollen and dull red. Bifurcation not seen. No actual aphonia, but the voice was faint and "ventriloquial." Copious vomiting, induced by ipecacuanha wine, was followed by quieting of the symptoms, and the patient passed a quiet night. The next morning, after a fit of coughing, the struggle for breath was terrible and cyanosis rapidly deepened. An incision was made into the trachea, the outer cannula of a tracheotomy tube was first inserted, and later replaced by a pair of sinus forceps to enlarge the wound. This procedure was suddenly followed by the expulsion of the bean with great force from the trachea. The wound was allowed to granulate and there was an uneventful recovery. The increase in distress and cyanosis was doubtless due to the swelling of the bean.

Adenoid Vegetations.

J. P. MORTON (*Canadian Practitioner and Review,* August, 1900) believes that 90 per cent. of the cases are due to a congenital process. There are undoubtedly instances of hereditary and acquired adenoids, but in most cases the children seem to be born with lymphoid tissue which enlarges on the least provocation. Lermoyez believes the process to be a pharyngeal tuberculosis, because rarely a general tuberculosis has developed after an operation for removal of adenoids. Frequent attacks of inflammation are considered a cause of adenoids by many, but it is more correct to consider the congenital tendency of the adenoid tissue to inflame and hypertrophy as the underlying factor. Rheumatic and strumous diatheses are predisposing factors, and dampness seems to favor their frequency; in the dry climate of Egypt adenoids are almost unknown. While the hypertrophy is undoubtedly increased by measles, diphtheria, and scarlet fever the adenoid vegetations are more often the soil in which the germs of these affections find entrance and develop than the result of the disease.

Symptoms.—Mouth-breathing chiefly during sleep, restlessness, nightmare, grinding of the teeth, nervousness, stammering, and dulness of hearing. Then there is the characteristic facial expression. Many cases are overlooked because only one or more of these symptoms are present. Sometimes reflex symptoms are so prominent as to be misleading, such as croup, asthma, epilepsy, chorea, and hay-fever and enuresis. Knight mentions torticollis, while Lauffs reported the case of a child five years old who had suffered for two years from prolapse of the bowel, which disappeared after the removal of the adenoids. He attributes the prolapse to a reflexly exaggerated peristalsis.

Diagnosis.—The posterior rhinoscopic mirror is impracticable in young children. When the growths can be seen there is no difficulty, but such conditions are rare. A digital examination is equally positive, but there is danger of the mucous membrane being damaged or the orifice of the Eustachian tubes injured by sudden movements of the child. More than one digital examination should never be necessary. In very young children it may be necessary to form a diagnosis by exclusion. Where mouth-breathing is present, the tonsils not enlarged or the nostrils occluded, adenoids are probably present. All cases of repeated ear trouble or of occasional attacks of dulness of hearing should be thoroughly examined for adenoids, for the chronic catarrhal condition kept up in the Eustachian tubes and tympanic cavity by even moderately hypertrophied adenoids often results in later life in intractable cases of stenosis of the tubes and slow sclerotic processes in the middle ear.

Treatment.—An operation for the removal of the growths should always be performed as soon as possible because: (1) Of the evil effects of mouth-breathing. (2) They are the cause of eighty-five per cent. of chronic suppurative otitis media cases in children and lead to temporary deafness. (3) Their presence renders children more subject to infectious diseases. (4) The mucous membrane is kept in a chronic catarrhal condition, often leading to atrophic changes later in life. (5) There is so little certainty that they will atrophy later on, the chance is not worth waiting for.

The patient should be kept indoors the day before the operation, a laxative administered, and the throat and nose cleansed by a spray. Operate in the morning if possible and direct that absolutely nothing be given for breakfast. Nitrous oxide gas is the safest anæsthetic, but chloroform is more convenient and permits thorough work. It may be done without an anæsthetic. Where anæsthesia is employed it should be complete to fully relax the throat. Where no anæsthetic or nitrous oxide is used the sitting posture is better; with chloroform they should lie on the table with head over the end. The finger-nail is never a thorough method for removal. Gottstein's curette is the best. Three downward scrapes with a large curette, three downward strokes with a small curette, and the introduction of the finger to see if any vegetations have been left will complete the operation. The patient may suck small pieces of clean ice during the remainder of the day. For two or three days they should be kept indoors on a liquid diet. The use of the cleansing spray through the nostrils should be kept up for two or three weeks. Recurrence is rare if the removal was thorough.

GREAT BRITAIN.

The Commoner Neuroses of Childhood; Their Pathology and Treatment.

O. J. KAUFMANN (*The Lancet,* June 30 and July 14, 1900) under the head of functional nervous disorders groups chorea, saltatory or salaam spasm, tetany, night-terrors and dreaming, nocturnal enuresis, migraine and allied conditions, and epilepsy. The diseases under consideration have the following ætiological points in common. They are produced by a group of emotional causes and also by a group of toxic causes, on both of which hereditary predisposition has an influence. The toxæmic element predominates in all of these maladies except saltatory spasm. Self-intoxication from the alimentary canal is a factor of first importance, and the gastro-intestinal disorders leading to such infection are: (1) *Excessive amount of food.* The glands producing the digestive juices may, for some time, respond to the strain of over-feeding, but such over-strain long continued ends in glandular inadequacy and incomplete digestion; bacterial decomposition of the intestinal contents takes place, and the products are taken up by the blood-vessels and lacteals. (2) *Unsuitable food.* Food unsuitable to the age or digestive capacity of the individual gives rise to gastro-intestinal conditions often associated with neuroses in children. An excess of meat or other proteid material is apt to be associated with dreaming, enuresis nocturna, and epilepsy. (3) *A catarrhal condition of the stomach or small intestines.* This may arise from various causes, dietary errors, intestinal worms, or infective diseases. The condition may be accompanied by diarrhœa or constipation. 4. *Constipation.* This is the most common predisposing cause of all the neuroses. In pronounced cases there is a dull, muddy complexion, the eyes and expression are dull, the tongue is furred, and the breath heavy. Examination of the urine will often reveal an excess of indican. A slight amount of indican is present in the urine of healthy persons, but an excess indicates the decomposition of nitrogenous stuffs in the intestine. The emotional causes producing these disorders may be overwork, mental or physical; fright, or shock. Other causes not included may be injuries to the peripheral nerves, cranial or spinal; masturbation or retained smegma preputii, commencing or disturbed menstruation, eye-strain, and congenital syphilis.

Treatment.—First a correction of dietary errors. It is not so much a question of prohibiting any article of diet as of regulating the amount. Meat once a day is sufficient for children. Sufficient mastication and

moderate rest after meals should be insisted upon, and the child's bowels must be moved every morning. Saline purgatives or the natural aperient waters may be used one hour before breakfast. In some, calomel combined with a small quantity of colocynth and rhubarb, given at night, works well. The result to be aimed at is a free daily action of the bowels rather than an occasional severe purge. If indican still is present in the urine intestinal antiseptics are indicated, and the writer gives the preference to vegetable charcoal in 30-grain doses twice daily. Tonics are useful in neurotic conditions with enfeebled general health, but they should be employed in conjunction with the intestinal treatment to produce any lasting beneficial results. Besides these general measures special remedies are useful in the different neuroses. For *chorea* Fowler's solution of arsenic in 15-minim doses thrice daily for a week or ten days is most effective. Seclusion, quiet, and darkness are necessary adjuncts in the treatment of this disorder. *Enuresis nocturna* may be treated with bromide of potassium combined with belladonna or hyoscyamus as a nightly dose. Some alkali, such as citrate of potash, should be given to diminish the irritating acidity of the urine. Attacks of migraine may often be cut short by an emetic, unless the headache be due to prolonged overwork of body or mind. For *tetany,* quiet, darkness, and the bromides are the most efficient remedies, together with proper treatment for catarrh of the respiratory or intestinal tracts. For dreaming and night-mare the underlying cause must be treated. For epilepsy, equal quantities of the bromides of potassium and ammonium in sufficient quantites to control the seizures may be used. Dietary treatment is of great importance. Intestinal worms of any kind must be removed by suitable treatment, and this must not be stopped too soon, for these parasites are often very persistent.

Four Cases of Chorea treated with Large Doses of Arsenic.

A. H. CARTER (*The Lancet,* July 21, 1900) says it is generally agreed that large doses of arsenic must be administered for the successful treatment of chorea, and if the initial dose is small it may be slowly or rapidly increased to the maximum. But a large dose of arsenic for a short time is better borne than a small dose for a longer time. Children stand arsenic well. In all cases much better results are obtained if the patients are kept perfectly quiet in bed.

Case I.—A girl of thirteen who had choreiform movements for five weeks, gradually increasing in severity. She had had two previous attacks lasting about four weeks, the first following an attack of acute

rheumatism three years before. She was placed in bed and 15 minims of Fowler's solution three times a day ordered. This was given in a wine-glassful of water in the middle of a meal. Marked improvement was shown on the fourth day and at the end of a week the movements had practically ceased. The arsenic was discontinued, the patient having taken 315 minims in seven days, and having shown no sign of intolerance except by vomiting once on the sixth day. Two months later there had been no return of the trouble.

Case II.—A girl of six, suffering from her first attack of chorea, which had come on ten days before, affecting the whole body violently. There was no history of rheumatism further than "growing pains." The child was put on 15 minims of Fowler's solution three times a day, increased the next day to 18 minims. There was immediate and marked improvement, and five days later the child was eating and sleeping well, with the choreic movements almost subsided. She vomited twice on the sixth day, after meals, and after seven days the arsenic was stopped. The vomiting continued and the child seemed dull, with foul breath, furred tongue, constipated bowels, and retracted abdomen. An enæma and aperient were given, and the patient convalesced. Five days later there was slight twitching of the hands, but this disappeared soon and there was no further trouble.

Case III.—A woman of twenty-five, three-months pregnant. The same dose was given as to the previous cases, with cure at the end of ten days.

Case IV.—A girl of seven, very bright and excitable. Mild general chorea of three-weeks standing. Fifteen minims of the same preparation of arsenic was ordered, but reduced to 10 minims after the second day on account of vomiting. The vomiting persisted during the week, but there was no other sign of intolerance and the child's improvement was marked, with no return of the movements after the sixth day. The arsenic was discontinued after the seventh day, 240 minims having been administered.

ITEM OF INTEREST.

THE SOUTHERN SURGICAL AND GYNÆCOLOGICAL ASSOCIATION.

Thirteenth Annual Meeting, to be held in Atlanta, Ga., November 13th, 14th, and 15th, 1900.

The following interesting papers are advertised to be read:

1—President's Address.
A. M. CARTLEDGE, M.D., Louisville, Ky.

2—Transperitonæal Drainage.
L. S. MCMURTRY, M.D., Louisville, Ky.

3—A new method simplifying the treatment of complicated Fibroid Uteri and severe cases of Pelvic Inflammatory Disease.
HOWARD A. KELLY, M.D., Baltimore, Md.

4—A report on a Case of Osteo-Fibro-Myoma of the Uterus.
GEO. BEN. JOHNSTON, M.D., Richmond, Va.

5—The Open Treatment in Suppurating Forms of Appendicitis.
Jos. PRICE, M.D., Philadelphia, Pa.

6—Aneurism of the Abdominal Aorta (Cœliac Portion) Laparotomy; Isolation of Sac and wiring with twelve feet of silver wire; Electrolysis four and one-half hours. Death on nineteenth day, with remarks.
RUDOLPH MATAS, M.D., New Orleans, La.

7—A Flap Operation for Atresia of the Vagina, with illustration.
GEO. H. NOBLE, M.D., Atlanta, Ga.

8—Epi- and Hypospadias with special reference to their Operative Treatment.
F. W. PARHAM, M.D., New Orleans, La.

9—Tuberculosis of the Female Pelvic Organs and their treatment.
Jos. TABER JOHNSTON, M.D., Washington, D.C.

10—An Operation for Rectal Stricture.
L. M. TIFFANY, M.D., Baltimore, Md.

11—Value of Therapeutic Test in Two Cases of Syphiloma resembling Osteosarcoma.
W. E. PARKER, M.D., New Orleans, La.

12—Gastroenterostomy.
F. T. MERIWETHER, M.D., Asheville, N. C.

13—Limitation in Abdominal Surgery.
T. J. CROFFORD, M.D., Memphis, Tenn.

14—Early Excision for Dislocations not Reducible by Manipulation.
W. F. WESTMORELAND, Atlanta, Ga.

15—A study of Intra-Cranial Lesions.
HUGH M. TAYLOR, M.D., Richmond, Va.

16—Carbolic Acid in Surgery.
SENECA D. POWELL, M.D., New York, N. Y.

17—Drainage in Abdominal Surgery.
J. W. LONG, M.D., Salisbury, N. C.

18—Fracture of the Shaft of Humerus Complicated with Dislocation.
N. P. DANDRIDGE, M.D., Cincinnati, O.

19—Etiology of Ovarian Dermoids.
W. D. HAGGARD, JR., M.D., Nashville, Tenn.

20—An operation devised for the Cure of Marked Rectal Prolapse in Women.
J. WESLEY BOVÉE, M.D., Washington, D. C.

21—Three cases of Extra-Uterine Pregnancy.
WALTER B. DORSETT, M.D., St. Louis, Mo.

22—The Removal of Cystic Gall-Stones.
HOWARD A. KELLY, M.D., Baltimore, Md.

23—Autointoxication from Defective Kidney Elimination, with and without Nephritis.
JAS. T. JELKS, Hot Springs, Ark.

24—Pseudo-Membranous Enteritis, and its Relation to Surgery of the Abdomen.
FRANK A. GLASGOW, M.D., St. Louis, Mo.

25—The Surgery of the Gasserian Ganglion.
WALLACE NEFF, M.D., Washington, D. C.

26—Some Life Saving Measures in Obstetric Work, with Cases.
R. R. KIME, M.D., Atlanta, Ga.

27—Anæsthesia by Sub-Arachnoid Injection of Cocaine and Eucaine.
W. L. RODMAN, M.D., Philadelphia, Pa.

28—(*a*) Supplementary Report on Case of Litholapaxy.
(*b*) Supplementary Report on Case of Vesico-Rectal Fistula.
GEO. S. BROWN, M.D., Birmingham, Ala.

29—
A. J. COLEY, M.D., Alexander City, Ala.

30—Appendicitis in the Female.
FLOYD W. MCRAE, M.D., Atlanta, Ga.

31—Cases of Ectopic Gestation.
JAS. A. GOGGANS, M.D., Alexander City, Ala.

32—Traumatic Gangrene.
J. B. MURFREE, M.D., Murfreesboro, Tenn.

33—Solid Ovarian Tumors.
JOHN G. EARNEST, M.D., Atlanta, Ga.

34—True Conservatism in the Management of Uterine Fibroids.
SAMUEL E. MILLIKEN, M.D., Dallas, Tex.

35—Report of a Case of Abdominal Pregnancy, with Specimen.
R. B. RHETT, JR., M.D., Charleston, S. C.

36—Surgical Treatment Immediately Following Labor, with Report of Cases.
W. L. ROBINSON, M.D., Danville, Va.

37—Retro-Flexed Incarcerated Gravid Uterus.
WM. A. QUINN, M.D., Henderson, Ky.

38—Exsection of External Carotid Artery in Inoperable Malignant Disease of the Face, with Report of Cases.
WM. PERRIN NICOLSON, M.D., Atlanta, Ga.

39—Vesico Vaginal Fistulæ.
M. C. MCGANNON, M.D., Nashville, Tenn.

40—Splenectomy, with Cases.
W. E. B. DAVIS, M.D., Birmingham, Ala.

W. E. B. DAVIS, M.D.,
Secretary.

A. M. CARTLEDGE, M.D.,
President.

Members of the medical profession are cordially invited to attend.

THE
AMERICAN GYNÆCOLOGICAL
AND
OBSTETRICAL JOURNAL.

NOVEMBER, 1900.

THE RELATIVE ADVANTAGE OF VAGINAL AND ABDOMINAL SECTION: AN ILLUSTRATIVE CASE.*

By B. F. Baer, M.D., Philadelphia, Pa.,
Professor of Gynæcology in the Philadephia Polyclinic.

The subject of the choice of route by which disease affecting the pelvic organs shall be approached surgically has been so frequently discussed in the past few years and the question so generally settled in favor of abdominal section, that there is danger of overlooking the fact that occasionally a case is met with in which life may be saved by means of vaginal section, as a preliminary operation of expediency. I present the following history as an instance:

On the evening of January 8, 1900, I was requested by Dr. Frank Woodbury to see Mrs. X., of a neighboring city, who was living temporarily at one of our large hotels. She was aged thirty years, and had been married three months. Five days before the above date, while in a stooping posture, she was seized with a sharp pain in the right iliac region, so severe as to make her cry out. Her husband, who was in an adjoining room, being attracted by her outcry, found her in great distress and very pale and faint. She was immediately placed in bed and a physician summoned.

He found the pulse 140, and feeble. There was tenderness and some swelling in the right iliac region, and there was slight metrorrhagia. Under stimulation and absolute rest the patient rallied from the shock, but inflammatory and septic symptoms developed, the temperature ranging from 100° to 103° during the five days intervening between the onset of the symptoms and the above date.

* Read before the Philadelphia Obstetrical Society, Nov. 1, 1900.

At once I was impressed with the gravity of the patient's condition. Her countenance was pale and anxious and the skin clammy, though it had been dry and hot several hours before. Occasionally a violent chill would seize the patient. The abdomen was tympanitic to a marked degree, although it was said that the bowels had moved several times during the day. There was also tenderness on the slightest touch over the entire abdomen, but more especially over the right iliac region, where could be faintly outlined an indurated, oblong tumor. This extended from the pelvis to above the umbilicus, but not quite to the median line. There was a slight discharge of blood from the vagina.

The cervix uteri was displaced forward against the symphysis pubis, with the body of the uterus also apparently anterior. The post-uterine pelvic space was occupied by a semi-fluctuating mass, and the posterior wall of the vagina opposite Douglas' pouch was tense and bulging.

It was clear that pelvic suppuration and general septic intoxication were the urgent symptoms. The sudden pain and collapse at the onset of the attack were thought to be due to hæmorrhage from rupture of a tubal gestation or of a blood-vessel in the broad ligament. Rupture of a tubal or ovarian abscess was also included in the diagnostic probabilities. The peculiarly-shaped, hard tumor occupying the right iliac space resembled fibroid tumor of the uterus, but that it might probe to be a retroperitonæal abscess burrowing in the line of the psoas muscle was admitted as a possibility.

Although I had little hope of saving the patient's life, so ill did she appear, I advised operative measures as offering the only chance of escape. It was therefore decided to move her from the hotel to a private room at the Polyclinic Hospital. She was wrapped in blankets and conveyed on a strtcher to an ambulance, and the transfer safely made.

Under ether the patient showed still further, by profuse sweating, ocllapse and cyanosis how profoundly septic she was. It was necessary to maintain great caution in the admission of the anæsthetic. After the more thorough examination which was now available, I learned than an operation of considerable magnitude and time would be necessary to remove the pathological condition by abdominal section, and I felt sure the patient would succumb if it were attempted. I also believed that it would be next to impossible under the circumstances to safely remove the hard tumor through the vagina. To make vaginal section, evacuate the septic pus, and remove the diseased organs so far as possible, seemed the wise and, indeed, the only course. I, therefore, determined upon vaginal section.

A post-cervical incision was made; fœtid, unhealthy pus gushed out and continued flowing until probably a quart had been evacuated. There was no evidence of previous hæmorrhage, in old blood-clots. I was rather surprised at this. After irrigation with hot saline water, I passed my finger into the emptied space and was thus enabled to palpate the pelvis and the abdominal surface more thoroughly. The tumor in the right iliac and umbilical space could now be outlined clearly. It did not seem to be closely attached to the uterus, and its pelvic end, which appeared to dip into the abscess cavity, was rather boggy to the touch. My first impression, that this mass was a fibroid, was for the moment weakened. mainly on account of the apparent fluctuation of its lower portion. Thinking that it might contain pus, I punctured it with an instrument (or thought I did), which I passed up on the finger. More pus flowed, but the tumor did not collapse. Although the patient was very weak, I was now strongly tempted to make abdominal section and finish the operation, fearing the result if I left the operation in this uncompleted condition; but the temptation was merely momentary; my better judgment prevailed, and I followed the plan which I had originally decided upon, *viz.:* evacuation of the septic pus only, at this time, unless the operation could be easily completed per vaginam. Further irrigation was now made, after which a rubber drainage-tube was inserted and secured by a suture, and the patient returned to bed.

She slowly rallied and the next day gave evidence, in temperature and pulse, and generally improved condition of the skin, that the evacuation of the pus had removed the source of immediate danger. Although I was in hourly fear that trouble would develop, improvement continued. The uterus was returning to its normal position and pelvic induration disappearing. The purulent discharge, at first profuse, had become slight. The drainage-tube was removed on the fifth day, but daily irrigation was continued.

Notwithstanding the improvement there were considerable pain and tenderness in the region occupied by the tumor, and there was evident interference with interstitial peristalsis, for tympany was a constance menace and the bowels were moved with difficulty. But the case had emerged from one of such gravity that we were now encouraged in the hope that she had regained sufficient strength to withstand the radical removal of the fibroid tumor, which had probably been the predisposing cause of the trouble, and which was now the sole hindrance to recovery. I had been in constant expectation that the injury it had received from contact with the septic cavity and puncture of its lower portion would give rise to renewed symptoms of sepsis. I was not

surprised, therefore, that improvement did not proceed beyond a certain point. Intestinal action was becoming more difficult; there were increasing fulness and induration, extending now toward the left iliac region, and the temperature and general appearance gave evidence that the patient was again septic. The golden moment was passing. Therefore, on February 1st, nineteen days after the first operation, abdominal section was made.

The tissues of the abdominal wall were infiltrated and apparently dead; the peritonæum was greatly changed and thickened. At first, a pus-cavity was encountered and, next, a cavity from which was evacuated probably a pint of disintegrating blood-clots, confirming the original diagnosis of concealed hæorrhage. After irrigation with saline solution the bowel was found to be seriously involved in the lymph-mass which furnished the limiting wall to the abscess and blood-cavities. The caliber of the intestine was nearly obliterated at several points and the bowel almost gangrenous. Resting upon the ascending colon, with its lower end extending into the pelvis, was the hard, oblong tumor spoken of above, and which is here on the table. It proved to be a nodular fibroid with a broad, membranous attachment to the side of the uterus, and with very vascular surroundings. It was very firmly adherent at every portion and was with difficulty enucleated. The adhesions which had been formed between the tumor and the large bowel were most intimate. Considerable hæmorrhage occurred but was checked by forceps and ligature. The uterus was large and congested. The appendages did not appear to be diseased, but time was not lost in careful examination, for the patient was very weak and the outlook dark. Satisfied that the cause had been removed in the evacuation of the pus and blood, and the removal of the tumor, I placed a rubber drainage-tube and rapidly closed the incision. Warm saline solution had been kept flowing during the operation, and all that the peritonæal cavity could contain was permitted to remain.

Stimulants had been freely used and were continued during the afternoon and night, and through the next day, for it was not until nearly forty-eight hours had elapsed that the patient could be said to have rallied. High enemas of normal saline solution containing whiskey and beef-juice were given with great advantage. Free drainage occurred during three or four days, then diminished, when the tube was removed and the channel allowed to close. Complete recovery resulted.

FURTHER CONTRIBUTION TO THE STUDY OF PELVIC HÆMATOCELE AND ITS RELATION TO TUBAL PREGNANCY.*

By George Tucker Harrison, M.A., M.D., New York, N. Y.
Hon. Fellow Medical Society of Virginia, Obstetrician to the New York Infant Asylum etc. etc.

A year ago I had the honor of reading a paper before this society upon the *Ætiology and Treatment of Pelvic Hæmatocele,* and the object of this communication is to illustrate, by a striking example, the mode of origin of an hæmatocele and, at the same time, to give greater precision to the indications of treatment. This is a subject of as much importance to the general practitioner as it is to the specialist. If the general practitioner fails to make the correct diagnosis, in time, the golden opportunity may have already slipped by when he calls to his aid the gynæcologist. Here, let me remark, that should I repeat what has already been mentioned in the paper above referred to, please bear with me, as some repetition is necessary to elucidate my theme. Our views in regard to the *pathogenesis* of pelvic hæmatocele have undergone a complete transformation within the past few years, in consequence of the increase in knowledge acquired by the greater frequency of the performance of the operation of laparotomy. It may well be doubted, if the comparative safety with which this operation is nowadays performed, may not have induced a number of surgeons to employ this method when the indication was not clear, but, be this as it may, it is beyond peradventure that the abdominal surgeon has here shed light upon what has hitherto been a *terra incognita.* We now know that in the preponderating majority of cases, estimated by Fehling to be 95 per cent., hæmatocele is due to a tubal pregnancy, and, further, that *incomplete tubal abortion with hæmatocele* constitutes the most frequent termination of such pregnancy. The generally accepted view, until recently, was that rupture of the pregnant tube was the most frequent termination, but, as a matter of fact, rupture is rare compared with tubal abortion. Rupture of the pregnant tube causes a free effusion of blood into the abdominal cavity, and rarely is hæmatocele associated with it; consequently the patient bleeds to death if

*Read before the Virginia State Medical Society at its Session held in Charlottesville, Va., Oct. 25th.

not promptly relieved by surgical intervention. In the case of incomplete tubal abortion, what occurs is this: either the ovum dies, and the tube, just as the uterus under analogous conditions, endeavors to expel it; as the ovum, however, is only partially detached, hæmorrhages ensue around it and, becoming organized, cause the formation of a *blood-mole*. Or, on the other hand, hæmorrhages originate primarily, detach the ovum only incompletely, and we have the same conditions that obtain in incomplete uterine abortion. The ovum is only partially expelled through the fimbriated extremity of the tube and, in consequence of the irritation caused by the contents forced out of the tube, encapsulations are formed embracing the tube, the lateral ligaments of the pregnant and the opposite side, the ovary, the large and small intestine, and the omentum. The view I formerly upheld, after Schroeder, that hæmatocele could only originate when an effusion of blood took place into Douglas' cul-de-sac, previously shut off from the general peritonæal cavity by an adhesive peritonitis, must now be abandoned, as more exact knowledge has conclusively shown that the accumulation of blood is the *primary* event and the adhesive peritonitis is *secondary*—the doctrine originally taught by Nélaton. The following case, it seems to me, is demonstrative: Mrs. M., age 29, is the mother of four children, has been married ten years and has enjoyed excellent health, as a rule. The last child was born nineteen months ago. In July I was consulted by the patient, who complained of some indefinite pelvic pains and thought she might be pregnant, as she had missed her last period which, should have occurred some days before. I concurred with her in the opinion that pregnancy might exist, although it could not be objectively demonstrated. In the early part of August I was summoned to the patient's residence on account of symptoms of slight collapse with uterine hæmorrhage. As the patient lived at a considerable distance from my residence it was some time before I could reach her, and meanwhile a neighboring physician had been called, who diagnosticated an abortion. He applied a vaginal tampon and suggested the necessity of having recourse to a curettage, of this more anon. When I arrived I made an examination *per vaginam* and found the uterus somewhat enlarged, and as the hæmorrhage had not been controlled I took out the insufficient tampon already inserted and replaced it by an effective tampon of *iodoform gauze*. The next day the patient was much better, and the hæmorrhage had almost entirely ceased. I reapplied the iodoform tampon. The subsequent day I found on removing the tampon a piece of decidual membrane. I began then to entertain the possibility of an ectopic gestation. This diagnosis

was made more probable by the fact that on making bimanual palpation a slight tumor was found on one side of the uterus. In a few days I was called to see the patient by an urgent message and found that she was suffering from collapse with feeble pulse, oxygen hunger and great apprehension of impending evil. Examination *per vaginam* revealed the existence of a decided tumor of soft consistence in Douglas' cul-de-sac and a tumor on the left of the uterus. I at once made the diagnosis of *tubal abortion* with *hæmatocele.* I had the patient taken at once to St. Elizabeth's Hospital, and on the following day, Saturday, August 18, 1900, I proceeded to the performance of laparotomy. I was assisted most skilfully by Drs. A. B. Tucker, Reich and Gessner Harrison. On opening the abdominal cavity it was found partially filled with dark clots of blood, the Douglas pouch especially being occupied by a large quantity. The intestines and omentum were agglutinated by adhesions due to partial peritonitis, and must be separated to get to the tumor. The left tube was enlarged and distended (hæmatosalpinx), it was tied off and ablated; on the right side was the incomplete tubal abortion. On inspecting this pregnant tube taken from this patient you will be struck with the great dilatation of the tube in its outer half. The fimbriated extremity is widely expanded, and the partially detached ovum is in the act of escaping by this avenue. It will be understood, I hope, from the description that the blood masses were roofed over by encapsulating adhesions. The patient reacted well from the operation, although her condition, from the previous loss of blood, was by no means favorable for the performance of so serious an operation. I regarded the operation as one of emergency, as I did not believe that she could stand a recurrence of hæmorrhage in her anæmic condition. Both Drs. Tucker and Reich concurred in the urgent necessity of surgical intervention. Until the sixth day the condition was altogether favorable, the temperature not rising above 100° F. At this time, however, a slight rise of temperature showed that the process of healing, in the abdominal wound, was disturbed and, on removing the dressings several stitch-abscesses were found. After evacuating the pus thoroughly, making free openings, I found, as Fritsch suggested, an ointment of vaseline and nitrate of silver in the proportion of 1:50, invaluable in promoting granulation. About the beginning of the fourth week the patient complained of intense pain in the calf of the left leg, the thigh began to swell and there was tenderness along the course of the femoral vessels, and at once it was evident that an attack of *crural thrombosis* had supervened. This necessarily caused a rise of temperature, as I have observed in all the cases of a

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REPORT OF INTERESTING CASES.*

By Frank W. Talley, M.D., Philadelphia.

It is said that the Chinese repair at certain intervals to the tombs of their ancestors and there spend the day in meditation, recalling the virtues and teachings of the revered dead.

So it appears to me seemly that we occasionally turn back the pages of our note-books and spend a while in contemplation of our past cases and the lessons to be gleaned from them. While the recitation of cases commonly met with in our large hospitals may be tedious to the members of this society, yet each may present some new feature and the time cannot be considered entirely lost.

The first case for which I crave your indulgence was that of gonorrhœal salpingitis with co-existing pregnancy, in which the pathology was the interesting factor.

The notes are as follows:

Mrs. C., aged 25 years, married five years, had twice given birth to a child at term, and once had miscarried. The last pregnancy was two years ago, and terminated in labor at term. She was admitted to the Polyclinic Hospital, with a history of having been ill for twelve weeks. Menses were always regular until two months before admission, since which time they have been suppressed.

Patient complains of severe pain in both ovarian regions, which prevents her from standing in the erect position. Backache, yellow and blood-stained leucorrhœa, constipated bowels. She denies a gonorrhœal infection.

Upon vaginal examination a large mass was found to occupy the left side of the uterus. Prolapsed, tender ovary on the right side. Uterus large. Two days later the abdomen was opened and a tubo-ovarian abscess removed from the left side. Owing to the strong adhesions the abscess ruptured in enucleation and about two ounces of pus was liberated. The fimbriated end of the right tube was inflamed and indurated, while the uterine end was apparently healthy. This appendage was also removed. The uterus was large and uterine tissue softened. The peritonæal cavity was irrigated with several pitchers of plain warm sterile water and the wound closed with through-and-

* Read before the Philadelphia Obstetrical Society, Nov. 1, 1900.

through silkworm gut sutures and buried silk suture in the fascia. The patient bore the operation well and made a good recovery.

The pathology of this case so interested me that I secured a report from two pathologists. The report from the Polyclinic Laboratory is as follows:

Laboratory Note.—Specimen sent for examination, June 21st. Patient's name, Celia C.

Macroscopic Examination.—R. ovary appears normal. The tube on this side, however, is indurated and congested at its fimbriated end. Toward the uterus the evidences of inflammation diminish so that where divided at the cornual end it appear normal. The left tube is thickened and indurated in its entire length, and the surface is lacerated from the breaking up of adhesions at the time of operation. The fimbriated end is bound down to the ovary and with the latter apparently forms the wall of an abscess cavity 5 cm. in diameter. The contents of the abscess escaped before the specimens reached the laboratory.

Microscopical Examination.— (*a*) Portion of abscess wall. The abscess wall is a highly vascular, fresh, granulation tissue. A large proportion of the cells are polyform nuclear, stained with theonin; bacteria are visible in some of the cells—their presence in the cells and their morphology indicate them to be gonococci.

(*b*) Portion of left tube about middle. The lumen of the tube contains exudate, with many polyform nuclear leucocytes. The folds of the mucous membrane are also infiltrated with inflammatory cells. The vessels do not appear much injected. In specimen of this portion of the tube stained with theonin no bacteria were found.

(*c*) Fimbriated end, right tube. The general appearance is normal; there is, however, a moderate infiltration of the mucous membrane by polyform nuclear cells and on the serous surface are similar but more marked pathological change, together with œdema and distention of the blood-vessels. At one point on the serous surface there is a focal collection of polyform nuclear cells, with commencing fragmentation of the nuclei; *i.e.*, commencing abscess.

(*d*) Tube (right), uterus end. The pathological changes are more marked in the mucous membrane of this portion of the type. The lumen contains an exudate of polyform nuclear cells, together with larger cells containing oval nuclei. In the folds of the mucous membrane there is a moderately intense infiltration by polymorphonuclear leucocytes. The vessels show no marked changes.

(Signed) T. S. KIRKBRIDE.

Dr. Williams' report:

Specimen from Celia C.

Cross-section of Ovary through well-developed Corpus Luteum.—Well-developed proliferated luteum cells nearly fill the space formerly occupied by the follicles, while numerous bands of fibrous tissue separates the various portions in a characteristic manner.

Numerous newly formed capillaries ramify throughout the proliferated luteum cells in all directions. The ovarian surface above the corpus luteum is in one portion about normal and in another portion in an acute stage of inflammation. The ovarian struma in the latter portion completely infiltrated with leucocytes and multinodular cells, newly formed capillaries extend in all directions, and a considerable amount of free blood is scattered throughout the tissue. The blood-vessels near the base of the corpus luteum are greatly dilated and filled with blood.

Cross-section through the Outer Third of Fallopian Tube.—The reduplication of the mucosa are swollen, hyperæmic, and pressed together to such an extent that the tube lumen is almost obstructed, The stroma of the mucous membrane is infiltrated with small round cells in great numbers and contains many dilated blood-vessels. In many portions where the plicæ are pressed together, the superficial epithelium has been entirely destroyed. The inflammatory process is confined almost entirely to the mucous membrane, the tube-wall being almost entirely normal.

Section through Middle Third of Tube shows the Mucous Membrane fairly well preserved, but hyperæmic and swollen. The superficial epithelial layer is almost uniformly preserved, but shows marked tendency to desquamation and in some portions proliferate. In the wall of the tube small round cells have infiltrated the nuclear fibers to a considerable extent and immediately beneath the peritonæal covering are round cells and polymorphonuclear leucocytes in large numbers.

Cross-Section of Inner Third of Tubes.—The lumen is patulous but the mucous membrane is considerably swollen. The superficial epithelial layer is well preserved, but shows a tendency to proliferate. The struma is infiltrated extensively with small round cells and polymorphonuclear leucocytes. The tubal wall is uninvolved.

Sections were also stained to show bacteria in tissue. Diplococci resembling in shape typical gonococci were found beneath the epithelial cells and in the struma of the mucosa.

Diagnosis: acute gonorrhœal salpingitis.

(Signed) W. L. WILLIAMS, M.D.

This case is of interest as an illustration of the pathology of advancing gonorrœal infection, proceeding from the fimbriated end of the right tube toward the uterine cornua; and from its etiology.

The patient was three months ill, her illness beginning undoubtedly as a gonorrhœal infection. During the acute attack of gonorrhœa she became pregnant and subsequently developed a tubo-ovarian abscess on the left side. The infection did not primarily affect the right side, but this is subsequently infected—the infection traveling from the fimbriated end of the tube toward the uterine cornua. The corpus luteum of pregnancy was on the left ovary, which was flattened out to form a part of the wall of the abscess.

From the pathological condition I should deduce that the ovum impregnated had been erupted from the left ovary, that it had subsequently found its way to the fimbriated end of the right tube, and had found development in the right uterine cornu. That the gonorrhœal infection had passed through the uterus between the decidua reflexa and serotina, and had infected the left tube, the right tube being barred by the attachment of the impregnated ovum. Afterward, the pregnancy continued, the tubo-ovarian abscess developed on the left side, with infection of the pelvic peritonæum. The right tube becoming infected from the fimbriated end toward the uterus and showing all grades of invasion until near the uterus it was almost in health.

Case II.—I was called by my friend Dr. Carpenter to see Mrs. B., æt. 28 years, married, who had been delivered instrumentally by another accoucher two days before. The labor, which proved slow and severe, had been terminated by forceps, the perinæum lacerating in the extraction and the tear extending through the sphincter muscle into the rectum. Immediately after the labor the patient was seized with a severe pain in the right side, extending from the iliac crest to the ribs. This pain was of a dull and gnawing character, and most severe in the epigastric region, but extending at times into the right leg. With this was severe and persistent vomiting and elevation of temperature. A distinct mass could be felt in this side, which apparently did not extend into the pelvis, and over which the bowel tympany could be elicited.

Four weeks later, the symptoms not improving, she was admitted to the Polyclinic Hospital, where the following history was elicited:

Family History.—Father and brother living. Mother died of pneumonia. Sister died in infancy.

Previous History.—Had the ordinary diseases of childhood. Has always been healthy. Puberty at 14 years. Menstruation regular, flow lasts three or four days, pain on first day.

Some time ago patient believes that she sprained her back or ruptured something in the pelvis by heavy lifting. Suffered pain in the right ovarian region, which was aggravated by exercise. This lasted for about a week and then disappeared. Several months later she noticed that her clothes did not fit her and that there appeared to be a mass forming in the right side. She became pregnant in January; from then until two weeks before delivery the pain disappeared. She seemed to feel much better in many ways during pregnancy.

Physical Signs.—Lungs: Negative.

Heart: Slight aortic regurgitation, with accentuation of the aortic sounds. Mitral systolic murmur.

Urinary analysis: Urine amber, acid, specific gravity 1020, no albumin, no sugar, sediment small in amount. Microscope shows no casts.

Examination shows a large mass behind the ascending colon, apparently not connected with the pelvis. Perinæum lacerated through the sphincter and into the rectum.

An incision was made through the right tinea semilunaris, revealing the lower border of a large kidney-shaped tumor lying behind the colon and high up under the liver. From this a tense, twisted pedicle extended down into the pelvis, where it was continuous with the right broad ligament. This was separated from its adhesions to the liver, leaving a small denuded area on its lower surface, which occasioned a persistent oozing. The pedicle was then ligated and the ovarian cyst removed.

The appendix was long and with thickened walls, and was also removed. A gauze pack was placed against the liver to control the bleeding by pressure, while the abdominal wound was closed in the usual manner. The patient made a good recovery from the operation. Two weeks later she was again given ether and the sphincter tear was united. The patient left the hospital two weeks later well.

The interest in this case was in the diagnosis. An ovarian cyst having been carried high in the abdomen by the pregnant uterus, forming attachment to the liver, and giving symptoms immediately after the delivery through the shrinkage of the uterus and tension on the pedicle.

OPHTHALMIA NEONATORUM; ITS PATHOLOGY, PROPHYLAXIS AND TREATMENT.*

By John E. Weekes, M.D., New York, N. Y.,
Surgeon New York Eye and Ear Infirmary; Lecturer on Ophthalmology, University and Bellevue Medical College, Etc.

The term ophthalmia neonatorum, as generally applied, includes all of those cases of muco-purulent or purulent discharge from the eyes that presents itself during the first two to four weeks of the life of the child and the general inference is that the infectious material enters the conjunctival sacs during or immediately after the birth of the child. This general impression may be slightly modified when we recognize the fact that infection sometimes occurs ante-partum, and that in those cases which develop later than three days after birth, the infection is almost always from a source other than the genitals of the mother; also a purulent secretion may present in the conjunctival sac during the first month of infant life, not due to inflammation of the conjunctiva, but due to an inflammation of the tear-sac dependent on an impervious lachrymal canal.

Symptoms.—The symptoms of ophthalmia neonatorum are too well known to require minute description here. The attention of the attendant is first called to the eyes of the infant usually on the morning of the third or fourth day by the appearance of muco-purulent secretion at the margin of the lids, by some redness and slight swelling of the lids and by slight restlessness of the child. The disease pursues a mild or severe course, as the case may be, and recovery takes place with or without damage to the eyes.

Cause.—Cases in which the discharge appears before the end of the fourth day after birth are almost invariably due to the gonococcus of Neisser. This is true whether the case be a mild or a severe one. I am compelled to this belief by the large number of examinations of secretion that I have made, and my position is abundantly supported by the observations of others. In July of 1886 (*Med. Record,* 1886, p. 90) I reported the examination of secretion from the eyes of seventeen infants suffering from ophthalmia neonatorum. In fifteen of these cases the gonococci were found. The two cases that did not possess

*Read before the New York State Medical Association, Academy of Medicine, New York, N.Y., Oct. 16, 1900.

the gonococci developed about two weeks after birth. Since 1886 I have examined secretion from very many cases of ophthalmia neonatorum with similar results. Francisco (*N. Y. Eye and Ear Infirmary Reports,* 1895) reports forty cases of ophthalmia neonatorum in which a bacteriological examination was made. In those cases in which the discharge appeared on or before the fourth day, thirty in number, all were due to the gonococcus; those cases which developed later were not gonorrhœal. In regard to the severity of the cases, Francisco states that "all of the severe cases were gonorrhœal, but that many of the gonorrhœal cases were of a mild type and could only be distinguished from the others by the bacteriological examination."

Confirmation of these views may be had by consulting the paper of Zweifel (*Arch. f. Gynäk.,* vol. XXII., p. 318), Widmark (*Hygien,* 1884, p. 404), Welander (*Nord. Med. Arkiv,* Bd. XVI., No. 2), Leopold and Wessel (*Arch. f. Gynäk.,* vol. XXIV., p. 89), Kraus (*Centralbl. f. Augenheilk.,* May, 1882, p. 134), and others.

If it were necessary that an attack of gonorrhœa in the female must shortly precede the birth of the child it would be difficult to explain the appearance of ophthalmia neonatorum in many cases, but the chronicity of gonorrhœa in the female is a well established fact (see the papers of Bockhart, *Vierteljahresschrift f. Derm. u. Syphilis,* 1883, Vol. I.; Currier, N. Y. *Med. Journal,* Oct. 17, 1885, etc.), and the persistent nature of the affection in males as noted in the discharge of gleet, is recognized, hence the appearance of ophthalmia in the new born of mothers who became pregnant years after they experienced the attack of gonorrhœa, and the transmission of gonorrhœa to wives by husbands who had long since recovered from the acute attack.

Micro-organisms that have been found in the secretion from the conjunctiva of infants, other than the gonococcus, are the pneumococcus, the bacillus of acute contagious conjunctivitis (Weeks bacillus), and the Klebs-Loeffler bacillus. It is also certain that some of the mild cases show no specific micro-organism, but are probably excited by the entrance of irritating substances into the conjunctival sacs during the care of the infant.

Prophylaxis.—The prevention of ophthalmia neonatorum is of the greatest importance. Reference to a few statistics in this connection will serve to emphasize this statement. In a paper published in the *Medical Record* of 1886, p. 90, the writer gives the percentage of blind caused by ophthalmia neonatorum as reported by seven foreign investigators. The number of blind examined reached into the thousands. The average percent reported by these writers was 17.09. In

the various countries in which the research was made the percentages ranged from 4.3 per cent. to 33 per cent. At the meeting of the American Ophthalmological Society, in 1898, the report of the majority of the Committee on Resolutions relating to the Purulent Ophthalmia of Infancy stated among other things that "out of about fifty thousand blind persons in the United States a little over five thousand have lost their sight from the ophthalmia of infancy." Before the adoption of effective prophylactic measures, statistics regarding the frequency of ophthalmia neonatorum was made at a number of lying-in institutions abroad. These statistics were collected by Dr. Lucian Howe of Buffalo and appear in the volume of Trans. of the American Ophthalmological Society, 1897, p. 53. I take the liberty of giving the totals. Of 17,767 births without prophylactic measures, 9.24 per cent. of the infants developed ophthalmia.

In 1880 Crédé, Leipsig, began the systematic employment of prophylactic measures in the lying-in asylum in that city for the prevention of ophthalmia neonatorum. His method was as follows: a drop of a 2 per cent. solution of the nitrate of silver was instilled into the conjunctival sacs of the infant from the end of a glass rod immediately after its first bath. In some cases quite severe reaction followed, necessitating cold applications to the lids, but no serious complications occurred. Of the solutions employed by others a 1 per cent. solution of silver nitrate has been used by V. Hecker, Munich; carbolic solutions by Konigstein, Vienna; sublimate solutions 1-1,000 and 1-10,000 by Stratz, Berlin. Sterilized water has been used by Abegg (Danzig), Korn (Dresden), and others. The average percentage of ophthalmia neonatorum that developed in 24,724 cases after Crédé's method (2 per cent. $AgNO_3$) was 0.655 per cent.

1,223 cases using 1 per cent. nitrate of silver was 2.422 per cent.

2,361 cases using sublimate solutions was 0.47 per cent.

1,623 cases using carbolic acid solution was 7.7 per cent.

5,823 cases using sterilized water was 3.122 per cent.

It will thus be seen that the sublimate solution and 2 per cent. nitrate of silver solution used after Crédé's method, have given the best results as prophylactic measures. These remedies are effective because of their germicidal properties. The nitrate of silver in 2 per cent. solution destroys the staphylococcus aureus in exposures of eight to twelve seconds, and it undoubtedly has a like effect on the gonococcus. Sublimate in solution of 1-1,000 destroys the pus germ in exposures of 45 seconds. Their introduction into the conjunctival sac of the infant

should be made shortly after birth, a convenient time being after the first bath. No solution for controlling the effect of the silver or sublimate need be employed unless the quantity of silver instilled exceeds one fair sized drop, when some normal saline solution may be employed to wash the conjunctival sacs, from one-half to one minute after the silver has been instilled. The sublimate in the solution and quantity advised will do no harm. If the lids should become swollen and red after silver or sublimate have been used cold applications may be made, and the eyes bathed with a solution of boric acid three or four times a day. The reaction will soon subside. When we realize the fact that without proper prophylactic measures about eighteen infants suffer from ophthalmia neonatorum where one suffers when prophylactic measures are employed, and remember that blindness is not a very infrequent result of this disease, the value of prophylactic measures is immediately apparent. As the obstetrician is seldom in position to know whether the gonococcus is present in the vaginal secretion of a parturient woman or not, it is advisable for him to employ prophylaxis in all cases. In all cases the attendants should be cautioned as to the contagious nature of the disease and all appliances used in the case of the infant's eyes should be kept apart, sterilized from time to time and used for the patient only. Dressings from the eyes should be destroyed. If but one eye is affected, the other must be protected by frequent careful cleansing and by endeavoring to prevent the secretion being carried from the affected to the sound eye. Protective shields are not satisfactorily employed in infants.

Treatment.—The rational of the treatment of ophthalmia neonatorum will be better understood if we recount some of the conditions present, and possible to attain.

a.—The lachrymal fluid is secreted but little during the first month of the life of the child, hence does not serve to mechanically remove secretion from the conjunctival sac.

b.—The conjunctiva of the lids is more severely affected in infants than the conjunctiva of the eyeball.

c.—The gonococcus grows more rapidly in a temperature ranging from 96° to 110° F., but grows very slowly at a temperature of 92° F. The same rule applies to the growth of the bacillus of acute contagious conjunctivitis. The Klebs-Loeffler bacillus and the pneumococcus are not so sensitive.

The temperature of the conjunctival sac ranges from 97.5° F. (an

approximately normal condition) to 102° F., according to the severity of the inflammatory process affecting the conjunctiva.

d.—By making cold applications to the lids the temperature of the conjunctival sac can be reduced to from 88° to 94° F., depending on the thickness of the lids.

e.—The condition of the infant has a decided bearing on the results of the inflammation of the conjunctiva. A robust well child is much more likely to recover without permanent injury to the organ of vision than a weak child.

The treatment of ophthalmia neonatorum should be:

First, mechanical. The conjunctival sac should be cleansed frequently, the more so because of the absence of tears. This should be effected by the employment of a non-irritating aseptic or midly antiseptic solution. Long experience has led many to choose a 3 per cent. solution of boric acid as the most desirable for this purpose. Sterile normal saline solution or a solution of sublimate 1-15,000 to 1-20,000 may be employed. The solution should be warm or tepid and should be used freely to irrigate the conjunctival sacs sufficiently often to keep them free from secretion. With the child resting on the lap of an attendant and the head between the knees of the operator, the lids may be gently separated and the solution permitted to run into the eye from a piece of absorbent cotton or slowly from a pipette or undine. Care must be observed not to press on the eyeball or to abraid the surface of the cornea. Cleansing of the eyes at suitable intervals should be continued until they assume a normal condition.

Second, the conditions for the development of the micro-organism should be made as unfavorable as possible; this can best be done by reducing the temperature of the conjunctiva. It is difficult to raise the temperature of the conjunctiva above that (110° F.), at which the micro-organism develops rapidly; consequently heat is not so readily available. To reduce the temperature below the point of the rapid development of the germ without impairing the normal functions of the tissue cells is comparatively easy. In the acute stage the cold applications should be made continuously from one to four hours at a time, repeated three times daily. Pledgets of linen of three or four thicknesses, or little pads of absorbent cotton moistened and laid on a cake of ice may be employed. The pads should not be heavy, as pressure may induce sloughing of the cornea. The pledgets should be changed as soon as warm, that is every one or two minutes.

The treatment with cold should be discontinued when the swelling of the lids subsides.

Third.—The destruction of the micro-organism so far as is possible by the application of a germicide to the surface of the conjunctiva. In the selection of remedies for this purpose there are some things to bear in mind. The remedy must not be so irritating that it will increase the inflammatory process. It should not destroy the tissue cells. There are a number of remedies to choose from—nitrate of silver, 0.5 per cent. to 2 per cent.; bichloride of mercury, 1-5,000; protargol, 20 per cent. to 40 per cent.; formalin, 1-3,000. The experienced physician usually resorts to the use of the nitrate of silver, making the application once a day. It is my custom to employ a 1 per cent. solution and to apply it to the entire surface of the conjunctiva once a day, after having carefully removed all of the secretion from the conjunctiva. The use of the silver is begun as soon as the case comes under observation, unless the lids are so swollen and tense that they cannot be everted without using a great deal of force. The pressure of a pseudo-membrane on the surface of the palpebral conjunctiva does not contraindicate the use of the remedy. This application should be continued once daily until the discharge from the conjunctiva ceases. Should the cornea become involved the sulphate of atropia in 0.5 per cent. solution may be instilled twice daily.

Fourth.—Constitutional treatment which should be directed to the general improvement of the child's condition.

Treated in the manner outlined, ophthalmia neonatorum seldom produces impairment of vision. Of the cases that have come before him, the writer does not remember a single instance of loss of vision when the cornea was intact at the time that the patient was put under treatment. This is not the experience of all. There are undoubtedly some cases in which involvement of the cornea cannot be avoided, but they, fortunately, are few in number. Surgical measures are unnecessary.

A FURTHER CONTRIBUTION TO THE STUDY OF FULL-TERM ECTOPIC GESTATION.*

EDWIN B. CRAGIN, M.D., NEW YORK.

In May of this year I presented to the American Gynæcological Society a paper on "The Treatment of Full-Term Ectopic Gestation: Should not the Child receive more Consideration?"†, and in that paper reported three cases of this condition, operated upon during the sixteen months ending in November, 1899. In one of these three cases the child was delivered alive; in the other two the children were dead at the time of operation. This evening I have the pleasure of reporting another case in which mother and child are both living, and the child shows no malformation:

Mrs. K. W., age 33; German; admitted to the Sloane Maternity Hospital, October 16, 1900, with the following history:

She had been married eight years; always healthy. She had had one miscarriage at six weeks shortly after marriage, and another at four months, two years ago. Her menstruation had been regular, of three-days' duration; amount slight and with little pain. There is no history of endometritis, or pelvic trouble of any kind. She had her last regular menstruation in January, 1900. In February she flowed for two weeks. In March she had a severe attack of abdominal pain, which kept her in bed one week. After this she was well through her pregnancy except for alternating constipation and diarrhœa. "Life" was felt in the latter part of June. She had had pains in the back for two weeks before admission, and for 48 hours before admission she had suffered with severe pains in the abdomen. She was brought to the hospital in an ambulance. On admission her pulse was 120. Abdominal examination was negative on account of tympanites and rigidity of the abdominal muscles. Vaginal examination showed the vertex low down in posterior cul-de-sac, almost on the perinæum. High up behind the symphysis the examining finger could just reach the posterior lip of the cervix, but could not enter the cervical canal. It was at first thought that the case was one of incarcerated retroflexed uterus, with the posterior wall extremely attenuated. As delivery per

* Read before the New York Obstetrical Society, Nov. 13, 1900.

† *The American Journal of Obstetrics*, June, 1900.

vaginam seemed impossible it was determined to open the abdomen and deliver from above. It was then found that the case was one of full-term ectopic gestation, within the folds of the left broad ligament, pushing the uterus high up against the anterior abdominal wall and dissecting the peritonæum from the posterior surface of the uterus. As a result of the 48 hours of spurious labor the ectopic sac was found ruptured and the neighboring intestines covered with fresh fibrin stained with meconium. The point of rupture was rapidly enlarged with the fingers and the living child extracted, which is here presented. (See Fig. 1.) The placenta was chiefly attached to the upper part of the left broad ligament, and it was found that the maternal vessels supplying the area could be ligated.



FIG. 1. Mother and Baby Four Weeks after Operation.

The intestines were glued all over the surface of the sac by recent peritonitis. The uterus was so incorporated with the sac that it was decided to remove the uterus, sac and placenta en masse.

The patient was in poor condition when brought to the operating table, but with the help of a saline infusion given during the course of the operation she rallied well and has had a smooth convalescence. The abdominal sutures were removed on the ninth day and union was primary. The baby was kept in an incubator for one week and then for one week in cotton. It is now four weeks old and for the last two weeks has been out of cotton. At birth it weighed 5 pounds. It now

weighs 5 pounds and 7 ounces, a gain of seven ounces above its birth weight. The mother has been able to furnish from her breasts only a portion of its nourishment, the child requiring supplemental nursing. In the paper presented to the American Gynæcological Society my conclusions were as follows:

1st. The viable ectopic fœtus is worth saving.

2d. Within the limitations outlined in the paper, attempts to save the child do not seriously increase the mortality or morbidity of the mother; hence,

3d. In the treatment of full-term ectopic gestation the child should receive more consideration than it at present enjoys.



FIG. 2. Ectopic Baby Three-and-a half Months Old.

My additional experience gained from the case presented this evening still further convinces me of the truth of the above conclusions. The recovery of the four mothers and the saving of the two living children, whose photographs are here presented (Figs. 1 and 2) are certainly strong arguments in favor of the plan pursued.

While I believe that in the majority of cases the placenta will be so attached that it is safer not to remove it at the primary operation, occasionally, as in the case here presented (Fig. 1) the attachment will be such that the maternal blood supply can be ligated and the placenta safely removed. Of course, when this is possible and primary union obtained, the gain is great.

62 West 50th St.

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EDITORIALS.

ORGANIZATION FOR MEDICAL DEFENSE.

Agitation in Minnesota regarding a Medical Defense Union seems likely to result in success. Very great commendation should be given Dr. Donald B. Pritchard of Winona, through whose efforts the subject was brought under discussion and through whose interest and industry the profession in Minnesota appears to have been brought to the point of really forming such an organization. The object of the Union is the defense of its members in alleged malpractice suits. Its membership is not to extend beyond the confines of the State and is of course limited to physicians of good repute, membership in a medical society possibly being a prerequisite. Naturally, in order to preserve its standing such an organization could not undertake the defense of genuine malpractice, nor indeed would it care to do so, but only of justly defensible cases, so many of which are merely blackmailing schemes. The suitability of a case for defense is to be decided by a Council; but in the instance of an unfavorable decision by that body the member may appeal to a committee of arbitration to be composed of three members, one chosen by the Union, one by the defendant and one by the members already chosen; and the decision of this com-

mittee is to be final. If the case be found properly defensible the society will undertake all the expenses of the suit. No compromise whatever will be allowed and the defendant must agree to be guided in the defense absolutely by the society. The society does not attempt to pay the fine if an adverse verdict be rendered. In the first place, the knowledge of such an agreement would be likely to act as a stimulus to such suits with patients themselves and particularly with the lawyers that seek such cases as speculations; also it would be likely to influence a jury to find a verdict for the claimant and quite possibly a larger verdict than otherwise. However the society will spare no expense in fighting the case in the first instance and then, if an adverse verdict be found, will appeal the case to a higher court, where it would be likely to get a much fairer decision than with an average jury. Regarding fees, an initiation fee and annual dues were at first suggested; but we believe that the present plan is for each member to pay an initiation fee of five dollars and to pledge himself to pay ten dollars more when called upon to do so by the directors, though it is not expected that such an assessment will be necessary.

In Canada a similar plan is under discussion by the Medico-Chirurgical Society of Montreal. Their idea is to form a Defense Association of the entire Dominion through branch associations in each province. Their proposed arrangement as to fees is embraced in the following resolution, which we quote:

"That the conditions of membership shall be the payment of an entrance fee of $5.00, and no subsequent regular annual fee, save if it be found at any time that the amount obtained from these entrance fees is insufficient to cover the cost of defending cases in any given year; that then the membership be assessed throughout the Dominion, the sum not to exceed two dollars ($2.00) per annum. That failure to respond to this assessment within one month shall, *ipso facto,* remove said practitioner from membership and from benefits of such association, and for renewal of such membership the consent of the central council alone shall be effectual, and payment of entrance fee with assessment in arrears shall be required."

A Medical Defense Union has existed in London for several years. The solicitor's report of that organization for the year 1899, quoted by Dr. Pritchard, shows that every case tried during the year was won by the Union. In both 1898 and 1899 the membership was largely augmented, five hundred new members being added during the latter year. Of course more cases came under the consideration of the Council, but the deterrent effect of the Union is shown by the fact that

many of these collapsed at once on conveyance of the intimation that the Union would contest them; while the number of cases actually referred to the solicitor was forty-two less in 1898 than in 1897 and eighteen less in 1899 than in 1898; most of the cases thus referred, moreover, came to be "more or less of a solid character."

Doubtless ninety-nine men out of a hundred will go through their professional career without being confronted with a malpractice suit. But no one can tell whether he be the hundredth man or not; and even if the need for its services never occur, membership in such a union would give the sense of security that arises from being insured; there would be protection for all at a sum that is trifling for each one. Entirely aside from the benefit to the occasional unfortunate individual is the even more important deterrent influence that such an organization would exert, an influence already noted in the history of the London Union. Just as one successful suit against a physician leads to other suits, so another case, well "fought to a finish" and won by a society would exercise the contrary effect. If, then, such a society be known to exist and especially if its power be put to the test a few times, possible claimants would appreciate that none but a just case would win, and the lawyers that deal in such cases and advise such people would still more keenly realize that any attempt to intimidate a physician by threatening suit, and that any attempt to push an unjust case in the hope of a final favorable verdict, would alike be useless and in the latter case unduly expensive. The deterrent effect would also extend itself more or less to the sort of doctor that allows himself to become a witness for the prosecution in such cases.

Such a defense union of physicians appears to us at once one of the most progressive, wise, hopeful and necessary measures we have observed. Progressive, because it indicates a willingness among physicians to stand together; wise, because it is intended to forestall as well as remedy a growing evil; hopeful, because it is entirely practicable and seems really to have attracted the attention of a profession that, almost as little as any, is alive to its own interests, either collective or individual; necessary because no one can longer doubt that the evil is increasing, each case giving rise to others, till it has come to pass that the first thought of many a dissatisfied patient is a damage suit and the first anxiety of the physician, however blameless, the possibility of such a suit. In fact, it appears that in time the practice of medicine will become a luxury possible only to the independently rich; for, while the law graciously assumes to assume every man innocent till he be proved guilty, practically, he is forced to spend time and

money in proving himself innocent, repeatedly, perhaps, if the case be appealed.

No words of ours can add to the importance of this matter or emphasize the vital necessity of the issue. The thing speaks for itself. We do not, it is true, expect doctors to take a great deal of trouble about their welfare, but this matter involves no large expense or effort. There is no reason why any physician of good standing should not be a member of such a union if he will only do his part towards forming one in his locality. What each must do, however, is to give the matter his personal attention—to think over its details, to talk of it and write about it; very little good will accrue from saying heartily "That is a good idea," and directly forgetting it entirely.

A. D. C.

A METAPHORIC COCKTAIL.

The following paragraphs from an article on ectopic pregnancy are of so transcendent a pathological beauty and grow so much more attractive as we study them from time to time that we think it a pity they should be lost to the profession at large. In fact the entire article is so good that the writer has published it in two different journals; unfortunately we have not sufficient space to give it a full third publication.

"This is a subject of exceeding interest, great importance, and transcendent pathological beauty, that grows larger and larger and more attractive as we study it from time to time.

"To-day, the great masses of the medical profession stand like dwarf Moseses with the cob-webs of ignorance, dust, indolence, doubt, prejudice, envy and procrastination beclouding their brains—standing on the Mt. Nebo of incompetence, superstitition, and doubt, appropriating to themselves the euphonious title of gynæcologist *per se*, when they are only cervix peepers and painters, and spectacularizers, minus the tactus eruditus, and the digital diagnostic touch.

"Each physician in general practice should stand as a light-house in the causation, pathology, symptoms and diagnosis of tubal occlusions, ectopic pregnancy and intrapelvic disease; and, like an Ida Lewis, should hear the cry of distress in ectopic tubal rupture, discern the expression of anguish in the woman's face, her mind active with the thought of some great commotion within her, like a Johnstown

flood, because the ectopic tubal dam has given way, or feeling that on life's tempestuous sea, with the tempest rising higher and higher, and billows of mental anguish around her roll, her boat has sprung a leak, is dipping and drifting further and further away. Physician, will you diagnose in time tubal rupture, take or bring the surgical life-boat to these mothers, wives, sisters and daughters? Remember, you are to "send out the life-boat, for some good woman is perishing to-day; throw out the life-line, for some one is passing away." Do not doubt and dilly-dally, but take to the surgical life-boat of the skilful, erudite, rapid, bold, conservative, life-saving operator." * * *

"In tubal rupture, the scarlet stream of arterial blood and the purplish venous flow are passing rapidly out, and, at the ruptured points, to vacant spaces—like a Johnstown flood running away with the patient's life, with destruction and death closing in upon the sad scene. Every expression of the patient, every beat of the heart, every throb of the pulse, cries, *'Help! help!* Save us, Surgeon, or we perish.'"

To this Johnstown flood of metaphoric cocktail, this glorious mixture of arterial and venous blood, we feel that we can add but little. It only remains to us to urge upon each thinking man that Ida Lewis should diagnose in time the life line while life's tempestuous sea rolling around Mt. Nebo; that the ectopic tubal damn should cease from its incompetence *per se* as a lighthouse of the *tactus eruditus* while the cobwebs rise higher and higher around the spectacularizer painting with dwarf Moseses the cervix of the pathology and mental anguish of wives, mothers, sisters and daughters dilly-dallying with the procrastination and lifeboat of the bold conservative commotion within her.

A. D. C.

HORACE TRACY HANKS, M.D.

It is with profound regret and a sense of personal affliction that we have received the news of the death of Dr. Hanks, a surgeon long connected with the best and highest labor of his specialty and a man associated in friendship with medical men throughout every State in this country. It has been found impossible to attempt more than a passing notice of his demise in this issue of the JOURNAL but we shall endeavor next month to present to our readers a synopsis of his life and work, commensurate at least with our respect and admiration of him as a man and as a surgeon if not with his deserts.

REVIEWS.

A Text-Book of the Diseases of Women. By HENRY J. GARRIGUES, A.M., M.D. Third Edition. W. B. Saunders & Co., Philadelphia, Pa., Publishers.

Careful reviews of each of the previous editions of this work have appeared in the AMERICAN GYNÆCOLOGICAL AND OBSTETRICAL JOURNAL, and each have been highly commended to the medical profession. The rapidity with which the two editions have been exhausted is some indication of the approval with which the book has been received. A repetition of its merits is unnecessary, and yet we dislike to pass this work over by simply saying that it has been carefully and thoroughly revised and is a safe text-book. It is more than this, for it seems to us not only the safest but the most satisfactory text-book that has come to our notice.

We have deplored the fact that the recent multiplicity of medical journals has created a demand for medical literature and everything good, bad or indifferent from the pen of a medical man has been rushed into print, with the result that all of the available time of the average practitioner is used in hunting for the newest ideas to the exclusion of the soundness of doctrine as set forth in the text-books. In the volume under consideration every subject has been discussed thoroughly and impartially, and all recent additions to this department of science that have stood the test of experience have been carefully presented.

The chapters most deserving of praise are those on the Anatomy of the Female Pelvic organs, the Diseases of the Fallopian Tubes, Uterine Fibroids and Diseases of the Ovaries.

The typographical work is of the high order that characterizes the productions of this firm of publishers.

The illustrations are many and are beautifully executed.

M.

Practical Gynæcology. A Comprehensive Text-Book for Students and Physicians. By E. E. MONTGOMERY, M.D., Professor of Gynæcology, Jefferson Medical College; Gynæcologist to the Jefferson Medical College and St. Joseph Hospitals; Consulting Gynæcologist to the Philadelphia Lying-in Charity.

The author has endeavored to make this a comprehensive work on this subject. He has given the experience and methods of the most

careful men, while his own wide experience has been utilized in indicating what he has found most useful and worthy of acceptance. Each general subject is considered with reference to its influence upon the entire genital tract, and the work is divided into sections, rather than chapters. While this method is a departure from the regular text-book arrangement that we have been accustomed to look for, still, the experience of the author as a teacher has seemed to justify him in the belief that it will prove more effective in impressing the subject upon the student, and will also be found preferable by the general practitioner who wishes to refresh his memory upon any particular subject. Following a short "Introduction" is the first section which is entitled "Diagnosis," and deals with subjective and general symptoms, pains, reflexes, hæmorrhages, discharges, etc., under which is described the various methods, positions, instruments, etc., used in getting at the correct diagnosis and treatment of cases. Therapeutics, medical treatment, local treatment, electricity, anatomy and physiology follow in the order named. Under the next section, "Malformations," comprising 110 pages, but 30 of these are devoted to that subject, while the remaining 90 pages describe the various operations for fistulæ, laceration of cervix and perinæum, which would seem rather unusual under such a heading. In the matter of plastic operations no one appears to have been slighted, there being no less than nineteen different methods and modifications of the denudations and manner of passing the sutures described.

The sections on "Inflammation" and "Inflammation of Cervix and Body of Uterus" treats of all the inflammatory conditions, from bartholinitis to salpingo-oophoritis, with the appropriate treatment, both medical and surgical.

"Deviations of the pelvic organs" includes the flexions with their medical and operative treatment, ventral suspension, Alexander's operation, etc.; while under the heading of "Genital Tumors" are discussed the various tumors that originate from the vulva, uterus, Fallopian tubes, and broad ligaments. The operative technique in these various conditions is fully described, and numerous original cuts illustrate the various steps. The author discusses the various metrods and modifications devised by foreign and American operators, so that all of the scientific light available is placed at the disposal of the reader. "Ovarian Tumors" is given an entire section, the last in the volume, and is quite exhaustive. A very extensive bibliography and index complete the work. An unusually complete "Table of Contents" in the beginning of the volume greatly aids the rapid reference to any desired subject.

The book is profusely illustrated, having over 500 illustrations, nearly all of which have been drawn especially for this work, for the most part from original sources, rendering clear the text and promoting the work of diagnosis and treatment.

The size of the book is very convenient, while the binding, paper and typographical work are excellent.

M.

TRANSACTIONS OF THE PHILADELPHIA OBSTETRICAL SOCIETY.

Stated Meeting, November 1, 1900.

The *President,* JOHN C. DACOSTA, M.D., in the Chair.

The Application and Relative Advantage of Vaginal and Abdominal Section: An Illustrative Case.

BY B. F. BAER, M.D., PHILADELPHIA.

(See page 401.)

DISCUSSION.

Dr. J. G. CLARK: The method pursued by Dr. Baer in the case which he has just reported has interested me very much, for I feel assured that only in this way could he have saved the patient's life; I am, therefore, fully in accord with the views which he has expressed.

Experience with this class of cases in the past, in which a preliminary vaginal operation has been performed with the view of subsequently performing an abdominal section for the radical relief of the patient, has taught us that in many instances the abdominal operation was not necessary, for the patients made uninterrupted recoveries after the simpler operation. If there is a simple abscess cavity which is pointing towards Douglas' cul-de-sac, the operation is a comparatively simple one, and is promptly followed not only by relief, but frequently by the radical cure of the patient, for the problem here is a simple one and is analogous to that which is met in other parts of the body where purulent collections have formed. Evacuate the pus and you relieve the patient. Frequently even when the purulent condition is associated with a myomatous tumor, the patient may be relieved by the vaginal incision.

During the summer, I saw, in a neighboring city, a patient of the latter type who was in the most critical condition. The tumor was high in the pelvis, and, in addition to the febrile disturbances, there was excessive uterine hæmorrhage. So profuse, indeed, did the hæmorrhage become that the patient showed all the signs of very grave anæmia,

such as sighing respiration, vertigo, and visual difficulties. On examination it was found that the patient had a small myoma of the uterus, and a purulent collection in the right broad ligament. To have attempted an abdominal section in this case would have doomed the patient, and it was with no little trepidation that ether was administered with the thought of performing curettage of the uterus and puncture of the abscess. The operation was of short duration, but, as was anticipated, the patient suffered profoundly from shock, her pulse being almost imperceptible when she was removed from the operating-table. In this case there was, perhaps, an ounce of pus situated to the right of the uterus. From the day of the operation the patient immediately began to recover her strength, a very liberal injection of salt solution under the breasts having tided her over the stages of post-operative shock, and to-day is in good physical condition.

In this instance I felt assured that a subsequent abdominal section would be required, and this is still a possibility, although the patient is in comparatively good health and free from pain.

Another case which is at present under my charge has given me no little concern on account of the fact that convalescence, following vaginal evacuation of a purulent hæmatoma has not been uninterrupted. The patient was seen in August, when almost a gallon of disintegrated blood-clot, streaked with pus, was evacuated through Douglas' cul-de-sac. For ten days after operation the case ran a very satisfactory course, the temperature falling from 103 to normal, and there was every indication that the chief danger had been passed. About this time, however, the temperature again began to rise, and within a few days it became necessary to again administer ether and dilate the vaginal opening, which was again followed by the escape of pus; notwithstanding this second operation, the temperature and pulse continued irregular and her complexion was of that peculiar lemon tint characteristic of a septicæmia. A third time the sac was evacuated, with a still unappreciable effect on the pulse and temperature. Finally, on account of the increasing weakness of the patient we were forced to perform an abdominal section for the more thorough evacuation of the pus, the vaginal incision having failed to give relief. The chief sac which had contained the large quantity of the sanguino-purulent fluid had contracted down to a very small space, but from the history of the case there was undoubtedly a concealed focus which we had not yet reached. An exploratory abdominal section was performed three weeks ago, at which time the original opinion that a radical removal of the diseased structures was entirely out of the question, on account of the adhesions,

which were most dense in all directions, was confirmed. A fluctuant sac, which had given rise to considerable pain, was located in the right groin above Poupart's ligament. Feeling assured, from the symptoms that this was a purulent accumulation, a counter-incision was made over the sac, but, to our surprise, only clear peritonæal fluid was evacuated. After a careful search through the central abdominal incision the concealed sac was found above the promontory of the sacrum and closely walled in underneath the sigmoid flexure. The dense adhesions absolutely precluded the possibility of reaching it through the abdominal incision, and the difficulty was only overcome by pushing the mass down from above until it was brought within the reach of the vaginal touch, when it was evacuated. Following this operation the patient has made an uninterrupted recovery and is now almost well.

This case which I have related is similar to the one which Dr. Baer has reported, with the exception that his is perhaps more complicated by being associated with a solid tumor. The more experience I have in cases of vaginal evacuation of purulent accumulations the more I am in favor of this method. These are the cases which have given the highest mortality when subjected to abdominal sections. Where there are dense adhesions in all directions and the patient is profoundly depressed by possibly a long-continued suppurative process, death will follow in a large proportion of cases if a radical operation is attempted. Contrary to the predictions of many who have violently opposed this method of treating these cases, they have not shown a tendency to recur and a large proportion remain permanently well without subsequent trouble. These results are a sufficient argument in favor of this less grave surgical procedure.

Dr. CHARLES P. NOBLE: For quite a number of years I have dealt with the class of cases in the same way that Dr. Baer treated this case, which I think is the only feasible method of treating such cases. I think it is folly, when we can drain away a large amount of septic pus by vaginal incision, to do an abdominal operation. If we do the abdominal operation in this class of cases, not only do we have very high mortality, but it is not feasible to do a good operation through the abdomen. We, as surgeons, realize that the only chance the patient has if we do an abdominal operation is by hurrying the section through and doing as little as possible. In other words, it is a life-saving operation rather than an operation to remove all the disease present, so that even if the patient recovers from the operation after the abdominal section she is in no better condition than she would have been had vaginal section been done. Another reason against abdominal section

is that in all cases if we operate from above it is necessary to drain and, as a rule, with gauze, so that practically all those cases operated on by the abdominal method which do not die, have hernia. Therefore, in that particular class of cases I am opposed to the abdominal operation if it is possible to reach the pus from below. I do not know how many I have operated on, but it is a goodly number, and with but one death. The patient died shortly after leaving the operating-table from heart-clot. Of course, the patient was *in extremis* when the operation was done. Her heart was so depressed by the sepsis from which she suffered that even the administration of ether was sufficient to turn the balance, and she died clearly of heart-clot.

One or two points brought up by Dr. Baer I would like to speak on. He said that he introduced a rubber tube and that the cavity was irrigated regularly. In a few cases I have irrigated, but in general I think it is unnecessary and that it is a bad practice. The point to be aimed at is to secure thorough drainage, and, therefore, we should make a large opening. We are all of us indebted in many ways to Dr. Kelly for ideas which he has introduced, but there is one word which he has introduced into the nomenclature which should be abolished; that is, "puncture," when used in this connection. The word conveys an erroneous impression: that you make a little hole into these abscess cases. What is desired is to make a large hole, through which two fingers can be passed. If we make a large opening in the dependent part of the abscess, intra-abdominal pressure will squeeze the pus out, and there is no occasion for irrigation or for drainage-tubes. I have never used drainage-tubes in any of these cases. I have used gauze when there was oozing of blood from the incision, and usually I use nothing. I think, in general, cases do better if we make a large opening and leave them alone; simply douching the vagina.

Some years ago when the puncture idea was actually carried into practice, take for instance the work of Mundé, the cases did not do well; most of them had a persistent sinus, the reason for which was, I am satisfied, because they were not opened freely and drainage-tubes were used which kept up the infection. My own experience has been that in all the cases I have done, probably fifty, there has been just one sinus. I think it is seldom necessary to repeatedly open these cases, though occasionally it is. It happens at times that when the patient is first operated on *in extremis* that the large abscess will be on one side of the uterus, and yet that there will be a small pus-collection on the other side, which is apparently so insignificant that it is not attended to. Several times I have had to do a second drainage operation on the

opposite side because of the persistence of fever. I think, however, the per cent. of such cases is not more than five or ten.

As to the results of the operations in this series of cases *in extremis*, those with large abscesses, and in those which the abscess is adjacent to the vagina, in my experience, in puerperal cases, they have been admirable. I think I have never had to do a secondary operation; quite a number have not only recovered in health, but have borne children.

In the gonorrhœal cases, where the abscess took place in a patient who had had a comparatively recent gonorrhœal pus-tube, the results have not been good, and in such cases I have been obliged to do a secondary operation to remove the appendages. In cases of long-standing pus tubes from gonorrhœa, where the pus was doubtless entirely sterile, where the tubes were largely destroyed as a result of the long-standing suppurating process, also, the patients have made good recoveries and had no further trouble.

I congratulate Dr. Baer not only on the issue of the first operation, but that the patient did so well after the section under such grave circumstances.

Dr. G. Erety Shoemaker: It seems to me the cases most suited to this method are those in which the collection is intra-peritonæal, rather than where a tube has become distended with pus; and that we are most likely to get a perfect result without subsequent operation where no secreting sac or wall is left, as would be the case did we empty a tube or cyst. The cases of suppurating hæmatocele after rupture of extra-uterine pregnancy belong to this type, and also a certain class of cases of encysted peritonitis; also, certain infected post-puerperal cases with abscess-formation outside of the tubes.

One of the cases of encysted peritonitis is now under my care, making an admirable recovery in the Presbyterian Hospital. About four weeks ago the patient had symptoms of an acute attack of salpingitis, but there was no mass to be felt of any size; in fact, the diagnosis between salpingitis and appendicitis was, for a few days, obscure. The temperature remained at 102° for about a week, then began to fall and rise, which made it evident that suppuration was going on. Leakage from the tubes probably infected the pelvic peritonæum. The cul-de-sac of Douglas became tensely distended, the uterus was forced upward and forward from intraperitonæal fluid pressing forward the vagina and pressing out the perinæum. At the same time there was tympany over the abdomen all the way down to the pubis, and that is a point which, to my mind, makes the abdominal

route more dangerous in these conditions; when the intestines are adherent and distended the difficulty of the abdominal section is greatly increased.

I made a vaginal incision, a large one, cruciform in shape, open to the bottom of Douglas' cul-de-sac, evacuated from the peritoneal cavity about a quart of highly offensive pus, smelling of the products of the colon bacillus. No large tubal distention could be felt. The patient's temperature has now been normal for a week. The exudate is rapidly disappearing, the patient is out of bed, eating and looking well, and if, in the course of six months, it is necessary to remove the remains of the salpingitis by the abdomen it can be done without sacrificing the patient's life.

Dr. B. F. BAER: With reference to what Dr. Noble said about placing the drainage-tube through the vaginal incision, I agree with him that usually it is better if left open, and always without gauze packing. I am decided on that. Gauze packing should never be used, neither in vaginal nor abdominal section. In this case you will remember that I thought I had punctured the tumor, though the result proved that I had not. I feared that it was a sloughing fibroid and I wanted to be sure that I had good drainage from it. This is the reason I placed a drainage-tube and irrigated with saline solution. The irrigation was made carefully and the patient seemed to be better for it each time.

A Case of Tubal Pregnancy in Which Tubal Abortion was completed and the Tube and Ovary of the Affected Side preserved, the Other Ovary having been destroyed by Advanced Cystic Degeneration, rendering Removal Necessary.

Dr. B. F. BAER: On June 7, 1900, Dr. W. O. Hermance requested me to see Mrs. R. F. She was twenty-eight years old; had been married seven years; had three children, the youngest being eighteen months of age. She had menstruated regularly during the preceding five months until the last period, which was then two weeks overdue. The patient stated that on the previous evening, after some unusual exertion, she had been seized with a sharp pain in the lower portion of the abdomen on the left side, and almost simultaneously was conscious of a discharge of blood from the vagina. She thought little of this and went about her duties, believing it to be the delayed catamenia. A little later, however, the cramp-like pain returned, the flow markedly increased, and she was compelled to go to bed because of faintness.

The night was passed in comparative comfort. She was up as usual the next morning but was soon obliged to return to bed because of a return of the symptoms.

Dr. Hermance, who was now consulted, immediately suspected extra-uterine pregnancy, both from the symptoms and physical signs; and my examination corroborated his view, although the physical signs were somewhat different from those usually met with in tubal gestation. The uterus was slightly enlarged and moderately fixed as usual; but extending from the left cornua, outward, and anterior to the broad ligament, an elongated, somewhat cylindrical and peculiarly-shaped mass could be easily outlined. It was rather soft to the touch and it was not firmly fixed. Posterior to the right broad ligament and extending into Douglas' pouch there was detected a rounded, tense mass about the size of an orange. This was thought to be a cystic ovary. Neither the condition of the patient nor the physical signs indicated concealed hæmorrhage, but we believed rupture of a tubal gestation sac to be immanent and therefore advised absolute rest and preparatory measures for operation.

On June 9th, an abdominal incision was made and a unique condition, so far as my experience goes, was encountered. Immediately under the incision and extending to the left the omentum was found, slightly discolored with venous blood, rolled into a mass and adherent to the peritonæal surface of the abdominal wall. It was carefully released and brought up, when examination showed it to contain the Fallopian tube, which it surrounded and embraced as though it had intelligently made a nest for the delicate tubal gestation sac. After carefully unrolling the omentum the tube sac was found, unruptured but distended and tense near its center, as though rupture were about to occur. The fimbriated extremity was slightly patulous and a little venous blood was oozing from it. Evidently the tube was endeavoring to get rid of its contents by an effort at expulsion through the fimbriated end, or by rupture of the tube structure; hence, the pain and metrorrhagia.

The tumor referred to on the right side proved to be a cystic ovary, and its removal was necessary. The left ovary was of about the normal size and appeared to be in a healthy condition. By the usual procedure both appendages would, therefore, be sacrificed, unless something could be done to save the left tube. It occurred to me that this might be done in one of two ways: either by incision of the tube and suturing after removal of the product—a sort of tubal-Cæsarean section—or by delivery of the product through the fimbriated end—an induced tubal-abortion. The latter was decided upon. The tube was gently dilated,

the ovum ruptured to reduce its size, and then, by manipulation and massage of the tube, the product was delivered. Very little bleeding ensued. It was interesting to note that the contractile property of the tube was somewhat similar to that of the uterine muscle afer expulsion of a product of gestation. The tube was constantly getting smaller. After thorough irrigation of the pelvic cavity the incision was closed. Progress toward recovery was without event until the third day, when a profuse uterine hæmorrhage occurred, attended with tenesmus and discharge of decidual shreds. This ceased within a few hours, after which there was no further trouble, the patient making a complete recovery.

DISCUSSION.

Dr. CHARLES P. NOBLE: This paper is undoubtedly of interest from several standpoints, primarily from that of conservative surgery. The doctor stated that under the usual procedure both appendages would have been removed, as the right ovary and left tube were diseased. It seems to me that it is not essential to remove the tube with the ovary in order to get rid of a cystic ovary or of an ovarian tumor. Therefore, it would have been possible to have left the right tube and the left ovary, and under these circumstances, in other cases, pregnancy has been reported, so that even aside from the fact of the conservatism which he practiced it would have been possible to have preserved the function of child-bearing in this case. The procedure to which he did resort is of great interest, and as far as I know, unique. The fact that it answered well in this case is the best argument in its favor. I should think, however, that in general such a procedure would cause too much risk of hæmorrhage after the ovum was delivered and the abdomen closed. That is the point which would naturally strike one.

I congratulate the doctor upon having introduced a new point in the conservative surgery of the sexual organs.

A Report of Interesting Cases.

BY FRANK W. TALLEY, M.D.

(See page 424.)

Sarcoma of the Uterus associated with Fibroma of the Round Ligament: Report of an Unique Case.

BY JOHN S. CLARK, M.D.

(See page 417.)

DISCUSSION.

Dr. B. F. BAER: I have been much interested in Dr. Clark's paper.

I have never met with a case of fibroma of the round ligament, but I have seen and operated upon many cases of tumor of the interior of the uterus similar to the one which Dr. Clark has described. I have here in this jar a tumor which I removed in June last from a patient aged forty-seven, which is, I think, the same pathologically as the one described, except that it was not associated with fibroid of a contiguous organ. The microscopic examination at the Polyclinic Laboratory proved it to be a round-celled sarcoma. It fills the entire uterine cavity, is as large as a cocoanut, and the clinical symptoms were much the same as in Dr. Clark's case. Within a period of two months, in May and June of this year, I operated upon four cases of uterine growths which projected into the uterine cavity from the fundus or side of the uterus, and the clinical symptoms were those of malignant disease. One woman, fifty-four years of age, lost forty pounds in weight in the preceding six months. Another case was a sterile woman thirty-four years of age. Her tumor was thought to be a fibroid, but to my surprise I found projecting into the uterus a degenerating tumor which is either a carcinoma or a sarcoma. It has not yet been examined microscopically.

A point of practical interest in these cases is the operative technique. I have always believed that malignant disease of the uterine corpus was purely local, and therefore usually did supravaginal hysterectomy, just as if the case were one of fibroid, and I believe that every one thus operated is living to-day. The first one was operated on in 1893. In two or three of the worst cases the operative difficulties were formidable. The tumors were packed and incarcerated in the pelvic cavity and in one of them a portion of the tumor had pierced the uterine wall and was projecting into the broad ligament. This portion I inadvertently broke off and I thought the patient would bleed to death before I could clamp and ligate the vessels. She was so exhausted from the blood loss that to save time I concluded the operation by supravaginal amputation. After giving us considerable anxiety she made a good recovery, has regained the lost weight, and the pallor has disappeared. The cervix appears to be healthy and from my experience in other cases I do not think it will be necessary to remove it.

Dr. CHARLES P. NOBLE: The case of Dr. Clark is unique so far as I know. I have never seen a tumor of the round ligament of any sort. The only sort of tumor I have seen in the inguinal canal was evidently due to old hernias, with adhesion of the sac.

With reference to the sarcoma of the uterus, Dr. Clark's report is of special interest to me, because to-day I received a tabular state-

ment of all the complications of fibroid tumors that I have ever seen. I find that I have had four sarcomas of the uterus. In one case the microscopic report was somewhat doubtful. The tumor was so necrotic that the pathologist would not say positively whether or not it was a sarcoma; it might have been a fibroid; the opinion was that it was a sarcoma. The presumptive diagnosis was the more probable as the patient apparently died of recurrence of sarcoma in the abdomen. However, there was no post-mortem. In the other three cases there was no question as to the microscopical report. In one case the diagnosis was further confirmed because the patient died of sarcoma of the lungs. The third case disappeared. The fourth case had sarcoma of the cervix. In the other three there was sarcoma of uterus. In the case of sarcoma of the cervix there was a large necrotic mass filling the vagina. Operation under the circumstances consisted in removing the tumor which filled the vagina. In this case there was the history of a similar operation having been done for about the same condition some years before at the Woman's Hospital. I learned that the tumor removed then was also sarcoma. This woman refused to have a radical operation, and she also passed out of my knowledge. I have, therefore, certainly seen three, and probably four, cases of sarcoma of the uterus.

As to the other complications of malignant disease with fibroids I have had four cases of carcinoma of the body of the uterus complicating fibroids and seven cases of sarcoma of the cervix. The outlook from Dr. Clark's case would seem to be very good. My experience with sarcoma of the uterus has been bad. I believe the general literature gives the prognosis as bad. I once removed a sarcoma from the ovary that weighed seven pounds. That has been at least six years ago. The patient is well. With a case so well localized as Dr. Clark's it seems to me that the ultimate outlook is very good.

Dr. THEO. A. ERCK: I would like to report a case, a photograph of which I will pass around. The case was operated upon a year ago at the Gynecean Hospital for chronic pelvic inflammatory disease, and the specimen showed, in addition to other lesions, a fibroid tumor of the round ligament.

In connection with the association of sarcoma and fibroma, I have a case which presents symptoms as did this particular case. A woman, probably 60 years of age, was admitted to the Frederick Douglass Memorial Hospital several days ago. Her general condition was bad, and a good history could not be obtained. She had a profuse bloody discharge, which had been present for three weeks. I examined her

abdomen and found a tumor extending to the umbilicus, a lobulated tumor, cystic in some portions, solid in others. Vaginal examination showed that the cervix was not involved. Introducing my finger into the vaginal canal I found a mass which I took to be a necrotic fibroid or sarcoma. To-day I removed from the uterine cavity a mass as large as a fist; it appeared to grow from the fundus. As fas as I could reach with my finger the interior of the uterine cavity was smooth. After having removed the necrotic tissues the tumor assumed an outline which



showed distinctly that the patient had fibroid nodules. There seemed to be no adhesions. Certain features distinguished it from a necrotic fibroid and I believe the microscope will prove that this is a case in which we have association of either sarcoma or carcinoma with fibroma.

Dr. GEORGE ERETY SHOEMAKER: It is a curious fact that although we have so many fibromas associated with malignant disease, the malignant disease does not involve the fibroma itself. They are generally separate. Last June I did hysterectomy for fibroma, where there was true carcinoma of the fundus involving endometrium and muscle but not the fibroma; another hysterectomy case this fall showed fibromatous interstitial masses with malignant disease of the fundus uteri involving the bowel secondarily. The nodules of fibroma were not degenerated. Dr. Clark's case illustrates the same thing: that the sarcoma is entirely independent of what fibromatous change there is in the uterine system.

Dr. J. M. FISHER: In considering these claims of the associtions of fibroma with carcinoma the question always arises whether or not a microscopic examination had been made to prove the diagnosis. I recall a case of Dr. Nassau's in which he removed the uterus and in which there was apparently a collection of fibroids in association with carcinoma. Upon microscopical section all proved to be carcinomatous structure.

Dr. JOHN C. DACOSTA: I would like to ask Dr. Clark if cases such as he has described do not sometimes recover after the removal of the polypoid mass. I had a case some few years ago in which I removed a mass larger than a big orange from a woman's uterus. The symptoms were such as those Dr. Clark described. The pathologist pronounced the specimen a sarcoma and said that the uterus should be removed at once. The woman refused operation, and recovered perfectly. In all these years she has remained well and strong.

I have not seen the condition which Dr. Clark speaks of, but I have seen different forms in the same tumor. There is now upstairs in the museum a specimen of fibroma and fibrosarcoma extended to the uterus, while in the fundus the condition is that of pure sarcoma. The growth was removed by me in 1891.

Dr. CLARK: Answering the question of the president, I feel that taking such a case as this, where microscopically the growth is so definitely outlined, the pedicle stopping so abruptly, I cannot conceive of such a case when thoroughly curetted to have such a result. It would not be the plan of treatment which I should feel was the one to pursue. Under the circumstances of that case such a thing could be possible.

In regard to the recovery of Dr. Baer's cases I think his statement is entirely correct.

I am not in a position to refute Dr. Noble's statement from a statistical standpoint, but taking this and the other case which I recall operating on in 1895, another case in Cullen's recent book, two of Olshausen's, and the four cases of Dr. Noble, we have a creditable showing in individual clinics. With the small number of cases at our hands it is difficult to say definitely as to statistics.

After investigating this case I should have felt perfectly content had only the upper part of this tumor been removed, but in view of the fact that I look upon all malignant growths surgically, I make it a rule to remove all anatomically possible. I felt in this case, as under the same circumstances I should have felt in Dr. DaCosta's, that it

was safer to operate. I think Dr. Baer's method was the proper one in his case.

Dr. Shoemaker's experience as to the course of these tumors I think is the common one. Up to within two years ago we did not know whether there was sarcomatous degeneration of them. Williams has worked the matter up carefully. Pick and Klebs of Berlin have stated that there is such a thing as the degeneration of one tumor into another. We have good authority, however, for believing that the majority are merely coincident and that very seldom one is transferred over into the other.

Dr. CHARLES P. NOBLE: I had an experience within the last month which might be of interest. It was not a uterine case, but a breast case. The patient had a myxoma of the upper outer quadrant of the left breast, which she had carried for eight years. The growth became sarcomatous and grew rapidly for two months before operation. The pathologist reported it to be a myxoma which had undergone sarcomatous degeneration. The sarcoma had involved also the pectoral muscles.

Official Transactions.

FRANK W. TALLEY,
Secretary.

PÆDIATRICS.

UNITED STATES.

General Subcutaneous Emphysema.

A. C. COTTON (*Archives of Pediatrics,* September, 1900) was called to see a child seven years old who had the following history: The patient had had all the diseases of childhood (including scarlet fever and diphtheria) except measles during the first five years of life, but from all had made a good recovery. Eight months previous to seeing her she had measles, had not been strong since and had a persistent cough. One month ago she had bronchitis with daily rise of temperature and night sweats. Five days before examination a ridge appeared over the right clavicle during a hard coughing spell, and spread in all directions. There was no history of convulsions or œdema. Urine scanty, turbid, containing albumin, pus cells, casts and bacteria. Dyspnœa was extreme and the child maintained a sitting posture, bending a little forward. The face was swollen and waxy, the lips cyanotic, and there was great distension of the skin over the neck, chest and trunk. Pressure elicited distinct crepitation and left no pitting. There was hyper-resonance over the greater part of the chest. There was no gastro-enteric disturbance. No radical treatment, such as incision of the skin, was permitted, and the infiltration of the skin gradually extended over the whole body, with increasing dyspnœa and cyanosis. Six days later she died, but no post-mortem could be obtained. The undertakers reduced the enormous distension by puncturing the skin, the air escaping.

Etiology. During a violent expiratory paroxysm some of the delicate air cells rupture and air escapes into the connective tissue surrounding the lobules or under the visceral pleura, giving rise to interlobular emphysema. The air may extend along the connective tissue to the neck, face and general cutaneous surface. Molin reports a case where immediate relief was afforded by incising the integument and inserting drainage tubes. The child recovered. The tendency is towards a fatal termination either from this condition alone, or from the disorder, which it complicates. Where the point of entrance of air to the subcutaneous tissue is within reach, as after tracheotomy or external lesions, the extension of the emphysema might possibly be pre-

vented by surgical interference. As the condition is intensified by coughing or deep respiratory movements, the respiration should be restricted as far as possible, and the cough relieved. Incision and drainage tubes should always be tried.

Solanum Carolinense in Trismus Nascentium.

JOHN W. MARCY (*Pediatrics,* September 15, 1900) reports the case of an unusually strong, well-developed child who was delivered easily after a three-hours' labor. The parents were healthy, the locality and surroundings as hygienic as possible. On the ninth day the nurse reported that the baby could not nurse, and she thought his mouth was sore. It was found that the jaws could not be opened. The next day the child presented all the symptoms of a well developed case of trismus, all the muscles being in a state of tonic spasm. The face was pinched and drawn, the bowels constipated, urine almost entirely suppressed and the abdomen as hard as a board. He was able to swallow and was fed with milk drawn from the mother's breast and poured into his mouth. A teaspoonful of olive oil was given, which acted well upon the bowels, and minute doses of pilocarpin were administered for their effect upon the kidneys. A mixture of ℥i of tincture Solanum Carolinense to ℨi of syrup and water was prescribed, ℥i to be given every three hours. This was increased in strength to ℥iv to ℨi, and a teaspoonful given once in two hours. Under this treatment he was kept asleep for two weeks, being only aroused sufficiently to allow of feeding. The relaxation occurred first in the jaws, then the arms and hands relaxed, then the abdomen and lastly the thighs and legs, the relaxation spreading from the head downward, precisely as the rigidity had done. The attack lasted nearly four weeks, and the child made a perfect recovery. The tincture of solanum was prepared from the undried berries, and is preferable to either the fluid extract or a tincture made from it. Since then the remedy has been tried in two other cases of trismus where the conditions as to cleanliness and hygiene were as bad as possible. One case had been sick for twenty-four hours, and only lived twelve hours more; in the second case the family would not administer the drug as directed, stopping its use as soon as the child became at all drowsy; this child also died.

Treatment of Pott's Disease after the Development of the Deformity.

EDWARD H. BRADFORD and F. J. COTTON (Boston *Med. and Surg.* say that treatment of the disease itself for the arrest and cure

of the pathological process consists in the proper fixation of the spinal column, either in a recumbent position in the acutest stage, or with thorough fixation and ambulatory treatment in the subacute and convalescent stage, that is, as soon as the slight jar unavoidable in locomotion is permissible without ill effect. There is considerable variation in the condition of the spinal column and in the curves. In some the bodes are but slightly affected, in others the destruction is extensive. The deformity depends not only upon the destruction of bony tissue, but also upon the portion of the spinal column affected, it being greatest in the dorsal region. Thanks largely to the efforts of the French surgeons, forcible correction of the curvature has been attempted all over the surgical world. Reports of 639 cases operated on by 34 operators give the following statistics: There were but 5 deaths from the trauma of the operation and chloroform. In 130 cases there was complete correction of the deformity, and in 94 cases there was partial correction. In a few cases respiratory embarrassment, pain or shock was produced. Existing paralysis was relieved in 17 cases, while paralysis appeared after correction in 4 cases. The amount of force that can be safely employed depends upon the amount of resistance and solidification of the affected bone. Where the necessary force would involve fracture of solidified tissue the method is inapplicable; osteotomy is also unadvisable. Correction treatment is admissible only in the first stage, *i. e.*, when the process is active and the curve flexible, permitting rectification.

Various methods have been employed: (1) Vertical suspension from the head; (2) vertical suspension by the head and arms; (3) horizontal traction of the recumbent patient with the pull upon head, arms and legs; (4) downward pressure upon the projection and support at neck and hips, combined with horizontal traction, the patient lying upon the face; (5) downward pressure upon the pelvis and upper portion of the trunk, with upward resistance at the back at the point of maximum projection, the patient lying upon the back, with or without traction to head and feet; (6) the patient lying upon back, with upward pressure by means of a strap passed under the patient at the point of greatest projection and connected with a cord and pulley; (7) correction with the patient seated, the upper portion of the trunk being stretched backward while the point of projecion is pressed forward and the pelvis secured by a strap.

These different modes involve the employment of two methods of application of force, one a pressure the other a pulling force. Experiments upon the cadaver show that pressure is preferable to traction,

as it acts more directly and with less waste of force. The pulling force, moreover, involves an unnecessary strain upon the neck and lumbar region, which, when an anæsthetic is not used, causes pain not essential to correction; but in the varying cases that mode is the best in which the force applied can be most easily controlled by the surgeon with the least discomfort to the patient.

In all methods difficulty is met in preventing an exaggeration of the lumbar curve. While traction is most efficient, flexion of the thigh (if the Metzger-Goldthwait apparatus is employed) is also advantageous. The dorsal recumbent position facilitates the application of the bandage in front, the position which most needs staying.

After correction it is of great importance to retain the spine in the corrected position until the gap made in correction is repaired or supported by anchylosis. A much longer period is usually necessary than is stated by some surgeons. In small children with short spines and also in high curves adequate retention is impossible, and a certain amount of relapse of the corrected curve is unavoidable in many cases. Unremovable plaster jackets form the most feasible means of immediate fixation.

Where correction is not possible either on account of the situation of the curve or on account of pathological conditions, fixation of the trunk with appliances is to be employed with the hope of arresting the development of the curve. The increase of curve may also be prevented by using repeatedly the methods employed in forcible correction, but using only slight force; this, with proper retention appliances, is a rational means of treatment applicable to a large number of cases, but requires a long period of time.

After the tubercular process in the spinal column is arrested and complete bony anchylosis has occurred and the cure is established in a growing child, an increase in the curve may take place in the course of the growth of the child, not due to a continuation of the tubercular process, but to a change in the shape of the vertebræ caused by the abnormal direction of superimposed pressure. The extent and development of these curves depends upon the rate of growth and the amount of superimposed weight rather than upon a condition of osteitis. The long continued use of supporting appliances is the best means of checking this distorted growth. The main support in all these cases is in the articular processes; when these are welded together in connection with an anchylosis of the transverse and spinous processes, nature has furnished the most desirable support to a spinal column with diseased

vertebral bodies, and all the various appliances are to be directed toward securing this result.

The Treatment of Umbilical Hernia in Children and Adults.

J. COPLIN STINSON (*N. Y. Med. Jour.*, September 29, 1900) says that congenital hernia of the umbilical cord develops before the falling of the cord, is due to defective devlopment during fœtal life, and is very rare, occurring only once in about 5,180 children. The protrusion varies from a simple bulging to complete evisceration; there is no true sac; the hernia consists of two different membranes inclosing a layer of gelatinous tissue in which the vessels of the navel end. The external coat is the amniotic layer of the cord, while the inner is composed of peritonæum and goes directly to the parietal peritonæum. A spontaneous cure, in seven or eight weeks, by bandaging is possible but rare. The process in these cases is as follows: The amnion becomes gangrenous and is gradually raised from the granulating peritonæum, while portions of epithelium sprout from the adjacent integument, cover the granulating surface and form a cicatrix, diminishing or curing the hernia by the cicatrization or shrinking of the hernial sac and skin. As a rule, however, most children die from peritonitis under expectant treatment, *i. e.*, antiseptic dressings, compresses and bandages. Better results are obtained by early surgical treatment. Ether may be administered by the drop method or chloroform may be used. The tumor is reduced if possible, the gelatinous tissues, granulations and other pathological materials are thoroughly removed, the projecting portions of the cord excised, the umbilical vessels tied separately with absorbable sutures, and the wound closed unless there is evidence of peritonitis; when this is present the infected intestines are drawn to the surface, and the abdominal cavity and infected coils freely irrigated with hot saline solution. After removing all septic material and drying the cavity and intestines as thoroughly as possible, the intestines are returned and the wound closed except at one point where a gauze drainage wick is allowed to emerge. The operation should be performed as speedily as possible, and the abdomen afterwards firmly supported by aseptic dressings, compresses, adhesive strips and bandages. The after treatment consists in the maintenance of the recumbent position, breast-feeding if possible, stimulation and tonics if necessary, and a laxative or injection two days after the operation. Fifty-five operative cases with only eight deaths are reported. For umbilical hernia developing in early infancy, under six

months of age, a truss should not be used. A compressor made of a big cork, cut so as to press slightly into the navel and support the surrounding parts, and covered with a thin pad of gauze, may be used strapped down by several one-and-a-half-inch wide strips of adhesive plaster, passing two-thirds around the body. The strips must not be applied too tightly and should be changed once a fortnight. In children with fat abdomens the skin and subcutaneous tissues in two folds, one on each side of the hernia, may be pinched up, and the folds used as a pad, retained in place by strips of plaster. A cure is usually accomplished in several months, but the treatment should be persisted in for a year. Where the child is a year or more old, treatment has to be continued longer, and a spring truss works well. If the hernia persists after a year, a radical operation should be performed.

The writer's method is to make an oval incision of the umbilicus and open the sac laterally where no adhesions exist. The steps consist in the removal of the excess skin, the umbilicus, the sac, and the excess of the serosa extending from the sac to the parietal peritonæum, the separation of all adhesions of the parietal peritonæum, the excision of protruding omentum and the removal of all omentum that can be withdrawn from the abdominal cavity without undue traction. In removing the omentum it is safe and best to ligate the vessels only with fixation ligatures of chromicized catgut. The rings and canal are cleared of all masses of fat glands and adhesions, and similar material bulging in from the subserous tissues is removed. The thorough exposure of the edges of the parietal peritonæum, the transversalis fascia, the linea alba, the lineæ semilunares and the recti muscles is requisite. The edges of each layer are then accurately approximated without tension and sutured. Where the fascial muscles cannot be approximated, or the layers are atrophied, one or both of the recti muscles must be used to close the aperture. If primary union is not obtained the patient must be kept in bed until cicatrization is complete. The firm dressings and bandages are worn for a month, after which an elastic abdominal supporter is advisable.

A Case of Suppression of Urine apparently due to Ascaris Lumbricoides..

FRANK VANDER BOGERT (*Archives of Pediatrics,* October, 1900) reported the case of a child, five years old, who was admitted to the hospital with a history of total suppression of urine for nineteen hours. For four days she had suffered from constipation and severe

pain in the abdomen, but there was no distension of the abdomen and the bladder was empty. The temperature was 101.2°; pulse, 120; respirations, 48. The temperature fluctuated from 98° to 102.5°, being normal in the morning and rising in the evening. Eight days after admission it rose to 103.4°, the throat was found to be inflamed and antitoxin was given, after which the temperature gradually dropped, reaching and remaining at normal three days later. For two weeks after admission the daily amount of urine passed did not average six ounces, but there were no unpleasant symptoms and nothing abnormal in the urine. On the fifteenth day the amount passed was thirteen ounces, and the same day a round worm, measuring 27 cm. in length was passed by the bowels. The amount of urine passed each day after that averaged fifteen ounces (with much lost). Lumbricoid eggs were found in the stools, and also eggs of the Tricocephalus Dispar; but although calomel and santonin were administered for three consecutive nights, no more worms were passed. The child left the hospital in good health and with the kidneys acting well.

Acute Nephritis following Influenza.

ROWLAND GODFREY FREEMAN (*Ibid.*) says that, while a simple albuminuria is not of uncommon occurrence during a severe attack of influenza, acute nephritis is rare. When it occurs it is clinically of the acute hæmorrhagic type and morphologically shows toxic lesions. It occurs more often in infants than in adults, and the prognosis is good. The nephritis may occur early in the course of the influenza, or long after the acute stage. In the ten cases in children reported the second day is the earliest, and the thirty-fifth day the latest date of its appearance. The duration was but eight days in the shortest case and thirty in the longest. The amount of urine was remarkably diminished in several cases, albumin was always present but in varying amount, and casts of various sorts were noted. Two cases had no œdema; in a third it was but slight, in the others more marked. Blood was present in the urine in every case. Only two cases died, and the examination showed parenchymatous degeneration in one case and glomerular nephritis in the other.

A Study of One Hundred and Forty Cases of Measles, with Reference to the Appearance and Value of Koplik's Spots as a Diagnostic Sign.

WILLIAM J. MARONEY (*Yale Med. Jour.*, October, 1900) says that

although this sign is of comparatively small value in private practice, as the physician is not usually called much before or not until the appearance of the eruption, it is of importance in large institutions where early isolation is the prophylactic, and an epidemic is almost certain to be attended with a high rate of mortality. During the months of March and April last there were one hundred and forty cases of measles in the New York Foundling Hospital. In only 8 of these was Koplik's sign absent, and 4 of these cases were marantic with very dry mouths, and 2 had aphthous stomatitis. In 2 cases the spots were observed and were followed by no eruption, the children being very frail; as hyperpyrexia, etc., intervened, death occurred in a few days. In 79 cases the sign was present before any eruption appeared on the skin, and in 53 cases the spots were not seen until the time of the eruption; this, however, was due to the fact that the large number of children—some 800—in the hospital, made it impossible for only two internes to inspect each child thoroughly every day. In every case where the spots were found there was a rise in temperature. In 28 cases the spots were found from two to four days before the eruption appeared, and even before the appearance of coryza. It would therefore be quite possible, where an epidemic of measles was known to be prevalent, to isolate a child in a private family before the catarrhal and most contagious period occurred, if a physician was called in on the first indication of a rise in temperature.

A Simple and Effective Appliance used in the Mechanical Treatment of Torticollis.

DANIEL W. MARSTON (*The Post-Graduate, October,* 1900) reports the case of a child, nine years old, who, two months before admission to the hospital, had suffered from an abcess in the left submaxillary region, which had been opened, drained and healed. There had since been a tendency to incline the head toward the left. The left sterno-cleido-mastoid muscle was rigid and apparently shorter than that on the opposite side, and the right side of the face was more prominent. There was no history of traumatism, tuberculosis or other constitutional disease. The affected muscles were tender and sensitive, suggesting neuritis of the spinal accessory, and it was determined to try extension and maintenance of the head in the corrected position before resorting to myotomy. The child was placed in bed wearing the leather head and chin piece ordinarily used in the application of a jury mast. Attached to the spreader, above the leather straps about

the child's head, was an extension cord running over a pulley at the head of the bed, and carrying a weight of three pounds, afterwards increased to five. This apparatus was worn continuously for five weeks at the end of which time the head was in normal position and the spasm of the muscles overcome. An apparatus, first used by Dr. Phelps, was contrived, made entirely of webbing and a few buckles at a cost of about fifty cents, instead of the complicated awkward brace, costing about twenty-five dollars, which is often used. A band of webbing passed around the forehead with a chin strap of the same material running in front of each ear. Two more pieces of webbing were attached to the forehead band at either side of the back of the head and buckled down to a Ferris waist. These guy-ropes could be tightened as desired and kept the head in a super-corrected position. The result was entirely satisfactory. In cases of torticollis of long standing either subcutaneous or open section of the contracted muscles is necessary, but in cases of brief duration the above plan will ordinarily suffice.

Precocious Menstruation.

HENRY A. STRECKER (*Phila. Med. Jour.* October 13, 1900) says that the fact of a bloody discharge from the vagina soon after birth does not constitute a menstruation. The case reported, however, is quite different. The birth was normal and soon afterwards a bloody discharge escaped from the vagina, continued for a few days and disappeared. Eighteen months later the bleeding returned, lasted for two days, and was preceded and accompanied by severe abdominal pain. Two months later it returned, again at the end of one month, and also two months later. An interval of five months elapsed before another period, but since then the bleeding has returned regularly once in 28 days, and is always preceded by pain. The child is now three years and nine months old, large, strong and in every way precocious. Her mammary glands are large, standing out from the chest, and hair has appeared on the pubes. The menses in the child appear on the same day as that of the mother. The family history on both sides showed no abnormality.

GREAT BRITAIN.

Hysteria in Boys and Youths.

ARTHUR HALL (*The Quarterly Med. Jour.*, August, 1900) says that hysteria in boys is not uncommon, and is not as readily recognized as

in girls. The children are often bright and intelligent. The most striking difference between the hysterical boy and the hysterical girl is that the former seems to have more purpose in his hysterical attacks. All of the cases were diagnosed as cases of organic nervous disease. The cases simulated cerebral tumor, cerebral injury, meningitis, epilepsy, and lightning stroke. In one case, a boy of fifteen was admitted to the hospital with symptoms of meningitis, temperature 102.2° F., pulse 60, respirations 9, intense pain all over his head. Morphine was given, he improved, took food well, and the temperature came down to normal. A week later the pain returned and he screamed as before. The next week there was rise of temperature, vomiting, and headache. The appetite was still good, and general condition good. Improvement was gradual, the morphine was reduced, and the boy was moved back to the general ward when he commenced screaming with pain again. As he was feeling better the next morning, the hypodermics were stopped and he was severely talked to. He remained in the hospital a week longer, feeling perfectly well. Two weeks later his mother brought him back on account of pain and screams the night before. She was told plainly the doctor's opinion of the case and the boy has been well since. His parents were drunkards. The pyrexia was the most puzzling element in the case but it was probably purely hysterical. This question was discussed by Kobler, who cited two cases under his own care and one under Heubner's where the pyrexia was plainly of hysterical origin. One case where the temperature rose at intervals to 40.5° C. and sometimes to 41° C. was cured by the threat of the Faradic battery.

Preliminary Rashes in Measles.

J. H. THURSFIELD (*The Lancet,* August 18, 1900) reports an epidemic of measles occurring in a hospital ward of 19 patients, ten of whom had had the disease and escaped reinfection, one very young baby escaped infection, and one child died during the incubation period; the remaining seven had the measles. In five of these cases there were preliminary rashes, which in four cases were, apart from the temperature, the earliest manifestation of the disease; for Koplik's spots, though carefully looked for, were not found. In two cases the rash was a fine papular eruption on the face, behind the ears and on the neck, very distinct and easily seen and felt. A third had a scarlatinal eruption, not uniform, but blotchy over the neck and shoulders. A fourth case presented first a bright scarlatiniform eruption around both

elbows and extending up the back of the arm. The next day she had a brilliant erythema developed in patches over the trunk, while the face was scarlet with a well-marked "oral ring." The fifth case had blotchiness of the face and small, discrete papules behind the ears and on the neck and shoulders. In four of these cases the preliminary rash appeared on the day before the typical measles rash, disappearing in about twelve hours. In the fourth case the rash appeared three days before the measles rash and the child was so ill that scarlatina was suspected and the child isolated. The rash disappeared in 48 hours, one day elapsing before the appearance of the measles rash. These rashes receive little attention in the text-books, and are misleading to practitioners whose attention has not been directed to them. They are often seen among out-cases in the children's hospitals, where they are brought as cases of supposed scarlet fever.

Two Cases of Cranial Meningocele treated by Excision: Recovery.

LEONARD GAMGEE (*The Lancet,* September 15, 1900) says that while the success of surgical treatment of cranial meningocele depends largely upon absolute asepsis, the strength of the child is an important factor, for death usually occurs either from septic meningitis or collapse. The use of Morton's fluid is much less frequent now, although it was undoubtedly the safest method of treatment. The cases treated by excision were as follows:

Case I.—A child of six weeks with a tumor the size of an orange growing from the back of the head. The swelling was translucent, partly reducible, and became more tense when the child cried. The overlying skin was normal in appearance, and the tumor could be felt to have a narrow pedicle passing through an opening in the mid-line of the occiput half way between the posterior fontanelle and the foramen magnum.

A longitudinal incision was made over the tumor, the skin peeled off, the membranous sac being left intact. An incision in the sac showed that it contained clear fluid only and that a canal passed through the narrow pedicle, communicating with the interior of the skull. The pedicle was ligated with silk and the skin wound sutured. The patient was discharged from the hospital in ten days, and four months later was in a perfectly healthy condition.

Case II.—A boy of eleven weeks with an oval tumor, 10½ inches in circumference, growing from the back of the head. The general appearance of the tumor was the same as in the first case, except that

the pedicle was broader. A skin incision was carried around the tumor, the sac incised and found to contain only clear fluid. The sac and skin overlying were cut away. The pedicle was too broad to be contained in one ligature, so the opening in the membranes was closed by a continuous silk suture and the skin edges brought together and sutured. There was primary union and the child has continued well.

A Lymphatic Anæmia met with in Children.

ALEXANDER MACGREGOR (*Ibid.*), September 29, 1900) says that there is no reference in any work on systematic medicine or on the diseases of children, to a form of anæmia not uncommon in children, but never met with in the adult. Twenty-three cases have been carefully studied by the writer, nineteen of whom were boys, and eighteen of whom were between the ages of three and eleven years. The disease runs a chronic course and recovery is the rule. The glandular affection is in no way connected with the enlarged glands which are or become tuberculous, and the adenitis and chronic course differentiate it from glandular fever. The anæmia is not always very marked, but is readily recognized. The form of adenitis and the groups of glands affected are characteristic. The axillary glands are never affected. The affected glands are small and hard, and are numerous in the cervical triangles and in the groins. The bronchial glands are frequently, if not always, enlarged, and the cough, with nothing in the lungs to account for it, is often a troublesome symptom. The mesenteric glands are probably affected, but abdominal symptoms are rare. The spleen is usually increased in size. Catarrhal pneumonia of one or both bases is not uncommon; in one case there was pleural effusion and in another signs of a thickened pleura. The blood shows a decrease of the red and a large increase of white corpuscles, and of the latter the increase of the large uninucleated corpuscles is very striking; usually they form from 6 to 8 per cent. of the white corpuscles, but in children suffering from this lymphatic anæmia they constitute from 20 to 39 per cent. The multinucleated corpuscles are reduced from their normal average of 70 to 80 per cent., to 41 to 63 per cent., and the lymphocytes are reduced in about the same proportion. In thirteen cases there was phthisis either in the immediate family or in uncles or aunts, but some of the most typical cases had no history of tuberculosis whatever. There is always a history of gradually failing health, loss of flesh and anæmia, and the child becomes listless and easily fatigued. Cough is worst at night,

occasionally there are night sweats. The tongue is clean, bowels usually constipated and appetite gone. Arsenic and iron are the best remedies, and, occasionally, cod-liver oil. A sedative for the cough may be required. The improvement is usually very gradual, but not a single case has become tuberculous.

Abnormal Nerve-signs and Other Defects in Children.

EDITORIAL (*Ibid.*) A committee of the British Association presented a summarized account of a series of observations on the face, hands and eye-movements of 50,000 children, as indicative of their brain condition. Twenty-one signs were noted, but they may be divided into the above three classes according to the part of the body in which the irregular action was noted. In 1,520 boys and 1,138 girls, the hands when held out free showed drooping, slouching, finger twitching or over-action, feet held asymmetrically. The face in 1,133 boys and 570 girls was lacking in expression or tone, or showed twitches or other irregular action, while eye-movements were not well under control in 351 boys and 259 girls. These factors have all been found to be of importance as indicating a well trained brain or its reverse, and deserve careful notice both in diagnosis and in school training. It has also been shown that physical training at school diminishes the proportion of dull pupils.

The Etiology of Scarlet Fever.

WILLIAM J. CLASS (*Ibid.*) says that in the *Berliner klinische Wochenschrift* of July 2 and 9 there was an article by Adolph Baginsky and Paul Sommerfeld announcing the discovery of a micro-organism believed to be the causative factor of scarlet fever. In an article published by the writer in *The New York Medical Record,* September 2, 1899, a description was given of a micro-organism discovered by himself, which description corresponds in many respects with that given by Baginsky and Sommerfeld. The cultures were made in different mediums, which will readily account for variability in form. Gradwohl and Jaques, who have been studying the scarlatinal germ also, state that it shows no permanence of morphologic character. Although the form usually seen in primary cultures grown on the earth agar is the diplococcus resembling a very large gonococcus, even a primary culture may show it in one of its other forms. A variability in viru-

lence has also been noted by the writer and these other observers. The evidence in favor of the view that the diplococcus scarlatinæ is the cause of scarlet fever follows:

1. *The diplococcus scarlatinæ is a germ not heretofore described.* A careful and exhaustive search of bacteriological literature prior to the first publication of a description in March, 1899, failed to show the description of any germ resembling this. A description of the varying forms of the organism was published later. In 1895 Crajkowski announced the finding of diplococci in the blood of 16 scarlet fever patients, but this organism presented nothing characteristic, nor was the examination followed up by him.

2. *The diplococcus scarlatinæ is constantly present in scarlet fever.* The writer has found it present in 300 consecutive cases of scarlet fever and scarlatinal sore throat. Gradwohl, Jaques, and Page have published accounts of its presence in consecutive cases, and other competent observers have found it uniformly present in the blood, throat secretions and scales of scarlet fever cases.

3. *The diplococcus scarlatinæ is a pathogenic micro-organism.* This has been demonstrated by experiments upon mice, swine and guinea-pigs. Mice died in from one to twelve hours, according to the virulence of the culture. Swine showed little reaction from the subcutaneous injections unless large injections of a virulent culture were used, but intra-abdominal injections gave rise to grave symptoms and even death. Guinea-pigs succumbed to intra-abdominal injections in from 10 to 14 days. Cats and dogs were immune. Cultures taken from the blood of the ventricles and from the spleen of the inoculated animals showed a pure growth of the organism.

4. *Scarlet fever can be reproduced in animals by the diplococcus scarlatinæ.* This is the first germ through whose agency a disease has repeatedly been produced which has been recognized by competent men as apparently identical with scarlet fever as it appears in human beings, so far as the rash and scaling are concerned. The animals used were white swine. After an intravenous injection the animal sickened in a few hours, there was rise of temperature, restlessness and anorexia. In three or four days a decided reddening of the skin appeared, and in some cases a papular eruption, followed in one or two weeks by profuse scaling.

5. *The pathologic changes in the organs caused by the diplococcus scarlatinæ resemble those of scarlet fever.*

6. *The disease produced through the agency of the diplococcus scarlatinæ is a contagious disease.* A healthy pig placed with pigs that

were scaling after the injection of the diplococcus developed a rise in temperature lasting several days, followed by scaling. Also healthy mice, placed in a cage with inoculated mice, sicken and die, and show the micro-organism in their organs.

7. *Influence of blood of scarlet fever patients on the activity of the germ.* The inhibitory action of the scarlet fever blood on the growth of the germ was demonstrated in numerous instances by adding the blood to one-half of a culture on a plate of glucose-agar, the other half being poured on a similar plate without the blood. In the latter innumerable colonies developed, and in the other very few. Another experiment consisted in inoculating four mice with a virulent culture of the diplococcus. Two of these mice had previously received subcutaneous injections of blood serum taken from a convalescent scarlet fever patient; these mice lived respectively 40 and 72 hours, while the other two died in a comparatively short time.

8. *The finding of the organism in throat secretions of patients with scarlatinous sore-throat is a further proof of its specific character.* The occurrence of scarlatina *sine eruptione* has been more or less generally accepted for some years, but could not be demonstrated, as the germ of scarlet fever was unknown. It has now been found that the cases are more frequent than was formerly supposed, that they are contagious, giving rise to cases of typical scarlet fever in other members of the same family, and that such cases are usually rendered immune by an attack of angina caused by this germ. The eruption is simply one manifestation of the activity of the organism and is not absolutely necessary to make a diagnosis of scarlet fever, however inconsistent this may seem with the name of the malady.

9. *Growth in milk without affecting this medium is a fact in favor of its being the cause of scarlet fever.* This will serve to explain the dissemination of this disease, which has many times been traced to the milk supply, and is an important thing to know from a public health standpoint. Cows are found to be susceptible to scarlet fever, and the diplococcus scarlatinæ is probably excreted in the milk of such animals, thus conveying the disease. Of course the milk may also be infected by the hands of milkers or dairymen in whose family scarlet fever was present.

10. *The finding of the diplococcus scarlatinæ in cases of surgical scarlet fever demonstrates its diagnostic value.* In two cases where a sudden rise in temperature and a rash appeared soon after operation, the trouble was shown to be typical scarlet fever and not a septic rash.

As these statements, based upon facts, fulfil all of Koch's laws, the

diplococcus of scarlatinæ is entitled to consideration by those engaged in a search for the etiology of scarlet fever.

Complete Primary Amputation of the Umbilical Cord.

R. L. DICKINSON (*British Med. Jour.*, September 29, 1900), in a paper read before the American Gynæcological Society, makes a plea for the general adoption of a more scientific method of treating the umbilical cord at birth. The present plan of distal ligature, followed by separation of the stump by a process of dry gangrene is hard to reconcile with modern antiseptic principles. From statistics derived mostly from lying-in hospitals and foundling institutions, the conclusion is drawn that a large proportion of the heavy mortality which occurs almost universally during the early weeks of infant life is due to navel infection. At the Innsbruck Maternity Hospital, out of 81 autopsies on dead infants, in 16 cases the cause of death was ascertained to be umbilical sepsis, this having been unrecognized during life in the majority of the cases. Arteritis, phlebitis (often causing jaundice), suppuration, erysipelas, pyæmia and similar conditions have been noted by different observers in connection with umbilical infection. The method advocated by the writer is amputation of the stump at birth, and dry dressing of the resulting skin wound. The vessels may be ligated separately, although this is not necessary. If the ligature method is used the cord is partially through around the edge of the skin cuff until only the vessels remain; these are all tied together with a single silk or catgut ligature and then divided. They immediately retract, then the skin cuff is turned in, and a pad of dry gauze or a collodion dressing is applied. The child should be bathed after the operation, and should not have a complete bath again for a week, by which time the wound at the navel will be healed. Ligating the vessels is not, however, necessary; the cord may be cut off at once with scissors, the stump pinched between the fingers and thumb, and the edges united by suture; a little oozing sometimes follows, but pressure with a pad always controls it.

A Case of Purpura and Intense Anæmia with Marked Deficiency in the Red Bone Marrow.

ROBERT MUIR (*Ibid.*) reports the following case chiefly on account of the remarkable condition of the bone marrow—a condition which may throw some light on the nature of certain cases of anæmia in

children. A boy of fourteen was admitted to the hospital suffering from epistaxis, hæmoptysis and purpuric eruption on the body and legs. He had been well until a month before, when he had a chill followed by a cough and slight hæmoptysis. Four days before admission the purpuric spots had appeared, followed the next day by almost uncontrollable epistaxis. A day later he vomited large quantities of dark, partially clotted blood. His lips and conjunctiva were almost bloodless, and there was slight general oozing of blood from the gums. There was so much vomiting of blood that rectal feeding was resorted to with some improvement in his condition, and the purpuric spots disappeared; but seven weeks after admission the spots reappeared, the hæmoptysis increased and he passed into a state of stupor and died.

The urine was examined from time to time, and was always normal, containing neither blood nor albumin. Two weeks before death the red blood corpuscles numbered 640,000 per c. mm. They showed little alteration except some variation in size and slight poikilocytosis, and there were no nucleated red blood corpuscles discoverable. The leucocytes were very scanty—about 1,000—and the lymphocytes numbered about 70 per cent., the rest being hyaline cells; no eosinophile cells could be found. Blood plates were practically absent.

The post-mortem showed petechiæ in the epicardium and endocardium. The heart muscle was pale, but the valves healthy. The lungs showed merely some hypostatic congestion with œdema. The mucous membrane of the stomach showed extensive hæmorrhagic patches, and there were a few in the small intestine, but none in the large. The liver lobules showed fatty degeneration of their central parts, but otherwise were normal in size, consistency and color. The spleen was normal. The kidneys were pale and yellowish, and in them was a considerable deposit of iron-containing pigment; this was found also in the liver. The brain was anæmic, slightly œdematous, with one or two small hæmorrhages. Microscopic examination showed widespread fatty degeneration in the various organs, and also in the smaller blood vessels.

The marrow of the femurs and ribs was deficient in quantity and consisted of fat of whitish appearance with a few hæmorrhagic patches. A portion was fixed in formalin-alcohol solution, but when passed into chloroform it completely dissolved. The bones were thicker than normal.

It is well known that after hæmorrhage the red marrow increases in amount, and nucleated red blood corpuscles become more abundant. Even in pernicious anæmia the marrow is of a deep red color, and

crowded with nucleated red blood corpuscles. The writer's view, in consideration of the peculiarities of the case, is that the condition of the marrow had produced and kept up anæmia, and that, as a result of some intercurrent condition, the hæmorrhages and purpura occurred. As the child had previously been in good health, it is probable that the change in the bone marrow was not congenital, or if some congenital defect was present it had recently become aggravated. The diminution of the neutrophile leucocytes is of importance, as these cells have their chief site of origin in the bone marrow.

GYNÆCOLOGY

United States.

*The Removal of Pelvic Inflammatory Masses by the Abdomen after Bisection of the Uterus.**

By Howard A. Kelly, M.D., Baltimore, Md.

(*Author's Abstract.*)

I pointed out but recently (*Johns Hopkins Hospital Bulletin*, 1900, XI., p. 56, and *Amer. Jour. Obst.*, 1900, XLII., August) the great advantages which accrue from the bisection of the myomatous uterus in an abdominal enucleation in certain complicated cases. I now desire to call your attention to the great value of a similar operation in certain cases of pelvic inflammatory diseases.

In the ordinary cases of pelvic inflammatory diseases, the ovaries are innocently and only accidently involved in the inflammatory process, and as a rule one or both can be saved even though it is necessary to sacrifice the uterine tubes. If one ovary is saved, the uterus must also be saved, as by doing this we conserve the function of menstruation as well as the internal secretion of the ovary.

Where the ovaries are seriously involved in the disease, where they are converted into abscess sacs or into hæmatomata, or where they are so densely and intimately involved with the pelvic inflammation that it is utterly useless to attempt to save them, the removal of the diseased organs should be effected together with the uterus whenever

* Read before the Southern Surgical and Gyn. Association. Atlanta, Ga., November 13, 1900.

it is possible in this way: by freeing the tube and the ovary on the least adherent side first, and then after tying off the broad ligament and pushing down the bladder, and securing the uterine artery, the most difficult side is easily reached and enucleated, by cutting across the cervix and exposing the opposite uterine vessels and ligating them. The uterus is then pulled up until the round ligament is caught and divided. At this point the operation may follow one or two courses according to the difficulties encountered. In the first place, if after dividing the uterus and pulling it up, the remaining tube and ovary can be readily enucleated by peeling them out from below upwards by working with the fingers in the lower and anterior part of the pelvis, just opened up by the detachment of the uterus, then the enucleation may be concluded by removing all the structures *en masse*. In the second place, if the tube and ovary on the far side are densely adherent and offer any serious difficulties in the enucleation, then I would clamp off the uterus at the cornu and remove it with one tube and ovary, and leave the more difficult side to be dissected out after emptying the pelvis, securing all the advantages of increased space and light.

It is my desire now to describe a method of enucleation through an abdominal incision which is applicable to a class of cases still more difficult than those just referred to. Let us suppose, for example, a case in which there are pelvic abscesses on both sides densely adherent to all the surrounding structures including the uterus; we will also suppose that the uterus itself is almost or quite buried in a mass of adhesions. In such a case the plan I have just described in detail is scarcely applicable, inasmuch as there is no easier side to begin on to start the enucleation, for both sides present the utmost difficulties.

Now in such a case the method of a continuous transverse enucleation does actually afford us, it is true, a great advantage over the older method of going down on both sides, for the simple reason that the enucleation of the farther side is always easier in this way, even though the difficulties of the first side are just the same after either method.

If now I could devise any method by which the enucleation of both tubes and ovaries could be effected from below upwards, it is manifest that a great advantage would be gained.

The vaginal hysterectomists have thus far had a decided advantage over those of us who prefer to operate above the symphysis, in the greater facility of the enucleation of adherent structures when they are attacked in a direction from the pelvic floor upwards. I am now about to describe a method by which this decided advantage is secured

and combined with the other great advantages of the abdominal route, that of increased room and increased facilities of handling, abundant illumination, as well as the detection of various complicating conditions.

The steps of the method are these: If the uterus is buried out of view, the bladder is first separated from the rectum and the fundus found. Then if there are any large abscesses, adherent cysts, or hæmatomata, they are evacuated by aspiration or puncture, and the rest of the abdominal cavity is well packed off from the pelvis.

The right and left cornua uteri are each seized by a pair of museau forceps and lifted up, the uterus is now incised in the median line in an antero-posterior direction, and as the uterus is bisected, its cornua are pulled up and drawn apart. With a third pair of forceps the uterus is grasped on one side on its cut surface, as far down in the angle as possible, including the anterior and posterior walls. The museau forceps of the same side is then released and used for grasping the corresponding point on the opposite cut surface, when the remaining museau forceps is removed. In this way two forceps are in constant use at the lowest point; I commonly apply them three or four times. As the uterus is pulled up and the halves are everted, it is further bisected down into the cervix, or if the operator desires to do a pan-hysterectomy all the way down into the vagina. The uterine canal must be followed, if necessary using a grooved director. The museau forceps are now made to grasp the uterus well down in the cervical portion, if it is to be a supra-vaginal amputation, and the cervix is bisected on one side. As soon as it is divided and the uterine and vaginal ends begin to pull apart, the under surface of the uterine end is caught with a pair of forceps and pulled up and the uterine vessels which can now be plainly seen, are clamped or tied. As the uterus is pulled still further up, the round ligament is exposed and clamped, then finally a clamp is applied between the cornu of the bisected uterus and the tubo-ovarian mass, and one-half of the uterus is removed.

The opposite half of the uterus is also taken away in the same manner. The pelvis now contains nothing but rectum and bladder, with right and left tubo-ovarian masses plastered to the sides of the pelvis, affording abundant room for investigation of their attachments as well as for deliberate and skilful dissection; the wide exposure of the cellular area over the inferior median and anterior surface of the masses offers the best possible avenue for beginning their detachment and enucleation.

The operator will sometimes find on completing the bisection of the

uterus that he can just as well take out each tube and ovary together with its corresponding half of the uterus, reserving for the still more difficult cases, or for a most difficult side the separate enucleation of the tube and ovary after removal of the uterus.

The operation which I have just described is not recommended to a beginner in surgery; the surgeon who undertakes it must be calm and deliberate, and must bear in mind at each step the anatomical relations of the structures.

The most critical point is the bisection of the cervix and controlling the uterine vessels; if the cervix is slowly and cautiously severed with a steady traction on the uterus under perfect control there is no danger of seeing the organ suddenly tearing out with rupture of the uterine vessels and frightful hæmorrhage. As the divided cervix is pulled apart, the uterine vessels are beautifully exposed and easily caught, only a clumsy operator will plunge his needle or a pair of forceps deep down into the tissues and clamp a ureter. By cutting up the cervix so as to leave a sliver on each side the uterine vessels can be caught at a higher level than that of the division of the cervix.

If the uterus is densely adherent to the rectum all the way up to the fundus, a modification of this plan of operating may be followed; the anterior face of the uterus may be bisected and the cervix divided horizontally and the uterine vessels caught, then the rest of the uterus may be carefully divided up its posterior surface in a direction from the cervix towards the fundus. The relations to the rectum are examined as the division is made, and at any point where it seems necessary a piece of the uterine tissue may be left adherent to the bowel. After the bisection the rest of the enucleation is effected as described above.

*Pseudo-Membranous Enteritis and Its Relation to Abdominal Surgery.**

By Frank A. Glasgow, A.B., M.D.,
Professor of Clinical Gynæcology, Washington University, St. Louis, Mo.

(*Author's Abstract.*)

The object of the above paper was to call attention to the frequency of pseudo-membranous enteritis, or mucous colitis, and to show that it is very probable many cases are mistaken for appendicitis or peritonitis.

*Read before the Southern Surgical and Gynæcological Association, November 14, 1900.

The symptoms are severe, colic like pains varying in intensity from day to day, with sometimes long periods of comparative freedom from pain. While these colic like pains are present the patient is generally costive, and when the bowels do move, from enema or purgatives, there are mucous or jelly-like masses, or even pseudo-membranes discharged. Sometimes these are good casts of the lumen of the bowel, at other times shreds, or long pieces resembling lumbricoids.

During the attacks of pain the abdomen is generally very sensitive, also the rectum and pelvic region.

The peristaltic movement of the bowels causes much pain.

The disease is chronic with acute exacerbations.

The text-books state that the disease lasts ten or fifteen years and the patient dies of some intercurrent disease.

The patients are almost invariably of neurasthenic type. The disease is now believed to be of nervous origin. The acute attacks can be distinguished from peritonitis by the previous history, the discharge from the bowel, and in many cases by the absence of fever or elevation of the pulse. If there is fever the pulse will not correspond with that of peritonitis.

It is pointed out that in many cases of appendicitis the appendix is not found in the condition we should expect it after years of inflammatory attacks. The condition found does not conform to the symptoms.

The paper suggests that these cases should be termed appendiceal colics, and are due to temporary closure of the opening of the duct into the bowel by inflammation or membrane.

Under this hypothesis the maintenance of the integrity of the appendix, after severe attacks continued for years, can be understood. The paper calls attention to the necessity of treating this preceding condition in order to prevent the occurrence of appendicitis. The many cases of pseudo-membranous enteritis and the very few cases of appendicitis which the author has had confirms him in the above opinion.

He considers that when a case presents distinct *localized* symptoms of appendicitis, we should operate, even if we know the patient to have mucous colic, for fear another attack would be serious.

The author suggests that the abdominal pains suffered subsequent to appendiceal operation may be due to a continuance of the general bowel trouble and not to adhesions.

He has found the application of galvanic electricity, a steady cur-

rent of from 20 ma. to 140 ma. for fifteen or twenty minutes passed through the abdomen to be of much benefit.

He has also administered ichthyol in daily doses of from 20 to 60 grains with equally beneficial effects. He generally employs both. Neither is a certain specific. General tonics do not seem to benefit much.

The author relates cases which apparently prove the above statement to be correct.

He urges on the profession further investigation.

Washington Avenue, St. Louis, Mo.

*The Ligature and Value of Dry Sterilized Catgut.**

By J. H. Carstens, M.D., Detroit, Mich.

(*Author's Abstract.*)

Finally the profession found that silk was the best for that purpose, and so for the first one-half of the 19th century virtually only silk was used. During the last quarter of that century, with the advent of abdominal surgery, requiring ligatures to be buried and be beyond reach after the external wound had healed, the trouble began. Silk was a foreign body and would often cause fistulæ, and the profession looked around for other material, and even used various metals, but they were generally found wanting. They tried animal ligatures of various kinds. The greatest trouble with these has been to make them absolutely sterile. Every kind of animal tissue, from the tail of the kangaroo to the fascia lata of the deer has been used and again dropped.

I have tried the different kinds of catgut ligatures—koumoled, formaldehyded, the chromocized—and always found something wrong. The greatest objection that I had to all these ligatures was that they *last too long.*

It really seems too absurd to me when I hear men talking about using twenty, thirty or forty day catgut, as though it made any difference whether it lasted ten days, twenty days or two months. If the parts are not *healed* in a few days or a week, they will not heal in a

* Read at Louisville, September 20, 1900, before the American Association of Obstetricians and Gynæcologists.

month if you simply hold them in apposition with the ligature. When I have taken out pieces of ligatures weeks and months after being put in place, I have become perfectly disgusted with various sutures.

Still catgut is just the ideal ligature that we want in abdominal surgery. Again and again I have approached the subject and experimented but have often become discouraged. Reverdin, Docderlein and others recommended dry sterilized catgut, but no good apparatus could be had until I heard some years ago about the dry sterilized catgut, as prepared by Boerckmann. The only thing that I did not like was to use oil paper or paraffin paper for the purpose of kind of oiling the ligature. That is just what I did not want in a ligature. What I wanted is a *plain, pure animal fiber,* as small as possible or as fine and as light as possible to hold the parts in apposition for a few days or to control a blood vessel

After I had sterilized some, I was astonished how strong the catgut was after being subject to an intense heat. First using some pretty heavy then I began to use it light and lighter, and finally got down to No. 3 of the finest German catgut. (Ten strands of ten feet each in a box is the way I got it.) This I used for tying the pedicle and blood vessels, and it is more than strong enough for that purpose. For fine work, that is, intestinal surgery or to sew the peritonæum together, I use only No. 1 or No. 0. For instance, in operation for appendicitis, that is amply sufficient in strength, as agglutination of the peritonæum takes place so rapidly.

I prepare these ligatures myself (although they are now in the market) in the following manner: The catgut is put in ether for a few days or a week till the fat is all removed, and then cut in strips of 18 or 20 inches long. Three of these are wrapped in fine tissue paper. This is then placed in a small envelope, the latter closed and then placed in the Boerckmann sterilizer and subject to dry heat for three hours. The thermometer is kept in the apparatus so that you can see that the heat is at least 300 degrees. At the expiration of that time the heat is shut off and the ligatures remain in the apparatus without disturbance for twelve to eighteen hours, which gives any spores that may be present an opportunity to develop. Then the heat is again used and the ligatures are subject to another 300 degrees.

No contamination can take place while they are in the envelope unless the envelope becomes moist. I have had a package in my satchel which I carried all over Europe, and whenever anybody wanted to try it I gave them a couple envelopes. The envelopes were loose, and came in contact with all kinds of things, but were kept dry, and

when I returned I made bacteriological tests and found that the catgut was still absolutely sterile.

I have repeatedly tested this catgut and have always found it absolutely sterile.

The points I want to make about the dry sterilized catgut ligature are the following:

1. All buried sutures ought to be absorbable.
2. All absorbable ligatures must be absolutely sterile.
3. Chemicalized sutures are no more sterile than plain sutures.
4. A suture that is chemicalized is harder and remains longer in the tissues.
5. This latter is no advantage but a disadvantage. If in a special case it is desirable that a suture should remain longer, dry sterilized kangaroo tendon can be used.

Bladder and Instillations of Corrosive Sublimate.

HUNTER ROBB (*The Cleveland Med. Gazette,* September, 1900) says that for the thirst often so distressing after abdominal section an enema of one pint of tepid water may be slowly administered. Nutritive enemata should not be given oftener than once in three or four hours for fear of rendering the rectum intolerant, and the rectum should be irrigated every morning with warm normal salt solution to keep it clean and aid in the absorption of the nutrition. The nutritive enemata should consist of milk, whisky or brandy, white of egg and salt in about the following proportions: One ounce of peptonized milk, one ounce of whisky, the whites of two eggs and twenty-four grains of salt.

For opening the bowels a pint of warm soap-suds given as a high enema is usually sufficient, but if not, then two ounces of olive oil and two teaspoonfuls of turpentine may be added. The addition of one ounce of Epsom salt to the soap-suds will sometimes prove effectual when other enemata fail. Where there is hardened fæcal matter in the rectum four or five ounces of warm olive oil or glycerine may be injected, to be followed in an hour by a soap and water enema.

Treatment of Chronic Cystitis in the Female by Curettement of the Bladder, and Instillations of Corrosive Sublimate.

CHARLES GREENE CUMSTON (*N. Y. Med. Jour.,* September 22, 1900) says that severe and painful types of chronic cystitis are fre-

quently met with in the female which fail to respond to ordinary methods of treatment. The method of treatment adapted by Guyon, of Paris, is applicable to many of these cases. Tuberculosis of the bladder as a primary lesion is more common than is generally supposed, and the almost exclusive site of the tubercular granulations is in the mucous membrane, in its most superficial layers. After ulceration has taken place the lesion involves deeper structures. In chronic cystitis of a non-tuberculous origin the mucous membrane is also largely the location of the lesions, and, moreover, there seems to be a predilection for certain sites, the trigonum, around the mouths of the ureters, the neck of the bladder, and the posterior urethra. These locations can be reached with the curette when necessary, and a curettement of the entire surface of the bladder is rarely needful The empty bladder may be curetted with comparative readiness, while it is almost impossible to curette a full bladder. The bladder being emptied, two fingers are introduced into the vagina and pushed upward and forward to the anterior cul-de-sac, thus realizing the point of resistance desired over the posterior surface of the bladder. The anterior surface of the bladder can be curetted against the resistance offered by the pubes, and the posterior against the fingers held in the vagina. A long, narrow Récamier uterine curette, a large metal catheter with two good sized eyes and an irrigator are all the instruments needed. General narcosis is necessary. With the patient in the lithotomy position, the external organs and vagina are thoroughly disinfected and the bladder irrigated with a three per cent. solution of boric acid. After the bladder is completely emptied the curetting is performed. The posterior wall is first curetted, then the curette is withdrawn and the bladder irrigated with normal salt solution to remove the débris. The anterior wall, the neck of the bladder and the upper wall of the urethra are curetted in turn and the operation is concluded by profuse irrigation and a Pezzer catheter is introduced; this is left for about twelve days. If there is much hæmorrhage a four-per-cent. solution of antipyrine in irrigations, or an instillation of a concentrated solution of ferripyrine will control it. Care must be taken that the catheter does not become clogged. The removal of the old and the insertion of a new catheter will usually overcome irritation.

In many cases both of tuberculous and non-tuberculous cystitis curettement is not necessary, but sublimate instillations will give relief of all the symptoms and in some cases effect a complete cure. These instillations are specially efficacious in gonorrhœal cystitis. The instruments required are a glass syringe with rubber mountings with a ca-

pacity of four c.cm., and a small perforated bulbous catheter. The patient is instructed to empty the bladder just before the operation, so that the therapeutic agent may come in direct contact with the lesions. Alcoholic solutions should never be used. As a rule it is safe to commence in an adult with a solution of 1:4,000, and in a child with 1:5,000; the strength may be increased according to the tolerance of the mucous membrane. In recent cases 1:2,000, or 1:1,500 is strong enough, but in chronic cases the strength may be increased even to 1:5000. From two to four c.cm. of the solution is slowly injected into the bladder and from ten to fifteen drops is left in the neck of the bladder and the posterior urethra as the catheter and syringe are slowly withdrawn. The patient should turn first on one side, then on the other, then on the abdomen, after the withdrawal of the catheter, so that the solution may come in contact with all parts of the surface. The first treatment may be somewhat painful, but where care is exercised the pain is of short duration and the use of cocaine or eucaine is rarely indicated unless the 1:500 solution is used. The instillations should be given every day until the strong solutions have been reached, when every other day will suffice. The sensibility of the patient, the effects produced by the sublimate and the reaction that it causes must guide the surgeon in carrying out this treatment.

Where instillations fail to relieve, a radical cure of primary tuberculous cystitis may, in favorable cases, be obtained by curettement when the vesical lesons are localized and the kidneys free from disease. When the lesions are extensive they must be treated by suprapubic cystotomy. Much relief will be afforded by curettement even in advanced cases of tuberculosis of the bladder, where the advanced stage of generalized infection renders a radical operation impracticable. When cystitis is due to a prolapse of the genital organs and is not relieved by hysteropexy combined with anterior and posterior colporrhaphy, curettement, followed by sublimate instillations, is the proper treatment.

Residual Symptoms of Gonorrhœa in the Female.

EDWARD J. ILL (*Annals of Gyn. and Ped.*, October, 1900) says that while a true gonorrhœa can be diagnosed with certainty only when the gonococcus is found, yet a time comes when the germ can be no longer demonstrated, and yet the patient is not well. In many cases pathological changes occur, the recognition of which is of great importance. Among the common and persistent changes is macular vulvitis; the mucous membrane of the vestibule is dotted with small red macules

marked by a prominent central point, like that produced by a flea bite. The redness varies from a light pink to a deep dark red. They are most frequent on the tops of the papillæ and are common about the para-urethral glands, and the orifice of the duct of Bartholini. This Bartholinian gland itself will often be found as a hard nodular mass when the labia is pinched between the thumb and finger. Cysts of this gland are usually the result of gonorrhœal obliterations of the duct.

Purulent discharges from the ducts of Skene and stringy mucus showing like threads in the urine are prominent residuary symptoms as well as stricture of the urethra and peri-urethral thickening. In the vagina the same macules and papules appear; the elevations are always red, often numerous and of a hard granular feel. The term granular vaginitis has been applied to this condition. The elevations are smaller than the acute granular vaginitis of pregnancy.

A chronic form of endometritis with a copious muco-purulent discharge in which gonococci cannot be found even after irritating applications is another residual symptom very stubborn in yielding to treatment. Chronic atrophic endometritis also occurs as a remote symptom. The chronic thickening of the tubes and the albuginea of the ovary from gonorrhœa are well known symptoms. Septic puerperal infection rarely leaves as much thickening in the pelvis as gonorrhœa does. A granular colitis frequently accompanies the residual symptoms in other parts. A diagnosis of residual gonorrhœa must be made with great discretion, for women are often ignorant of the fact of having had the disease.

Parotitis following Hysterectomy.

N. L. RIDEOUT (*Ibid.*) reports a case of a complete abdominal hysterectomy followed twelve days after the operation by a characteristic bilateral parotitis. She had been three weeks in the hospital where there were no cases of the disease. It was evidently a case following a diseased condition of pelvic organs, or may have been the result of injury to the pelvis during the operaton, both of which conditions are recognized as causes by Osler. There was a similar case in the Boston City Hospital.

Organo-Therapy in Gynæcological Therapeutics.

HARVEY P. JACK (*International Jour. of Surg.*, October, 1900) says that there has been more advance along the line of organo-therapy than in any other department of experimental therapeutics. The use

of thyroid extract in cretinism and myxœdema is well known, but medication almost as specific and results almost as striking are to be obtained by the use of this and the parotid, mammary and ovarian gland extracts in gynæcological therapeutics.

Thyroid extract is one of the most reliable vaso-constrictors, and in gynæcology its use is indicated in hæmorrhagic affections of the uterus and in various forms of pelvic congestion; the best results are to be expected in fibromas and pathologic conditions of recent development. Polk has noted also an increase in nervous and muscular energy, improved nutrition and lessening of pain. Shober has obtained equally good results in fibromas from the administration of mammary gland extract, and it is not followed by the symptoms of thyroidism. It controls the hæmorrhages, reduces the size of the tumors and in some cases causes their disappearance. It does not seem to have any effect on the hæmorrhages of inoperable cervical cancer, as does thyroid extract. This may be explained by the fact that thyroid extract has a special catalytic action upon the epithelial elements of the endometrium. In two cases of inoperable cancer of the uterus in the writer's practice, thyroid extract controlled the hæmorrhages, and in one case the pain. Parotid extract is the best remedy for dymenorrhœa and ovaritis. Pelvic exudates soften and are often absorbed. Menstruation becomes regular, less in amount and shorter in duration, while the headaches and nervous symptoms so often accompanying the monthly period are, as a rule, cured.

The ovarian extract is indicated in all cases of nervous trouble at the menopause, and also where it is desirable to increase the flow from the uterus. The ovary has, besides its function of ovulation, another almost as important, that of internal secretion, and like the thyroid secretes an active oxidizing agent, spermin, that aids in the metabolism of the blood.

Parotid extract is the best ovarian sedative, and ovarian extract the best ovarian stimulant. It is probable that as we learn more of the different physiological effects of each gland, as studied alone and in combination, more exact therapeutic application may be deduced and gland-therapy may take the place, in a large measure, of surgical procedures.

Remarks upon Post-operative Treatment with Special Reference to the Drugs employed in 114 Consecutive Unselected Abdominal Sections without a Death.

Hunter Robb (*Cleveland Med. Gazette*, October, 1900) says that

nearly every patient is restless and suffers more or less pain after an operation. Drugs are not, however, always indicated; a good nurse can relieve many discomforts. If restlessness at night is very marked an enema of 2 oz. of milk of asafœtida, to be repeated in an hour, if necessary, is efficacious. A drachm of bromide of potassium may be combined with the asafœtida. Morphine should not be given unless the pain is very severe, and then in small doses. There is great danger in using morphine after operations; if continued for a few days the patient becomes restless and fretful, complaining of the slightest pain. Fifteen to twenty drops of the deodorized tincture of opium may be added to the nutrient enemata which the patient receives as a routine practice after the operation. Sulphate of strychnia is used after every abdominal operation, the patient receiving $^1/_{30}$ of a grain by rectum before she is carried from the operating room. Then two doses of $^1/_{30}$ grain strychnia and $^1/_{75}$ grain of atropine sulphate are given hypodermically at intervals of half an hour. After this $^1/_{30}$ to $^1/_{60}$ of a grain of strychnia is given hypodermically every three to six hours, according to the character of the pulse.

For tympanites occurring after operation one or two drops of the tincture of capsicum in a teaspoonful of hot water every half hour for three doses, or fifteen drops of the essence of peppermint will often prove effectual. A turpentine stupe or a mustard leaf over the epigastrium will be a useful adjuvant. If these measures fail the use of the rectal tube, carried well up into the rectum for half an hour, will give relief.

Remarks upon Obscure Non-traumatic Tumors of the Lower Abdomen suddenly appearing where None had previously been detected.

MAURICE H. RICHARDSON (*Boston Med. and Surg. Jour.*, October 4, 1900) refers to tumors so small that they escape detection by observation or bimanual examination one day, and in a few days are so large that they may even bulge the abdominal wall. A common cause of such tumors is an over-distended bladder. A patient who gives a history of passing urine voluntarily and easily may yet have a bladder filled with urine, forming a large fluctuating tumor. Idiopathic dilatation of the colon—the so-called phantom tumors—constitutes a second class. This might rather be called a suddenly disappearing tumor; but the dilated colon may suddenly become twisted or obstructed and thus form a mass in the abdominal cavity. In one

case the intestine was enormously distended just above a stricture, forming a large pear-shaped tumor filled with liquid fæces.

In several cases the writer has found, confined behind the uterus, low in the pelvis, collections of clear, sterile fluid; these may form in a very short time. An unusual case in the Massachusetts General Hospital was of a girl of nineteen whose trouble was gastric disturbance and neurasthenia. Repeated examinations of the abdomen were negative. Suddenly she was attacked with vomiting, followed by severe pain in the left side of the abdomen and in eighteen hours she was in collapse. A large, fluctuating, tender tumor filled the whole lower abdomen and pressed upon the bladder. Ovarian cyst with a twisted pedicle was diagnosed, but on opening the abdomen the tumor was found to be the enormously dilated stomach filled with several gallons of fluid. It was found impossible to empty it by the way of the œsophagus, and an anastomosis was made between the stomach and jejunum, but the patient lived only three days. There was no stricture of the pylorus or other cause found to account for this condition.

A frequent cause of unexpected tumors is the sudden enlargement of a flaccid tumor due to a twist in its pedicle. This may occur in persons who had never suspected the existence of a tumor, or in the course of other diseases or conditions most misleading. In one case the woman was suddenly seized with pain and tenderness in the abdomen, accompanied by vomiting and collapse. A most careful examination revealed nothing abnormal. Two weeks later a tumor was removed, filled with blood, and large enough to fill the whole lower abdomen.

The ruptured sac of an extra-uterine pregnancy is still another cause of the sudden appearance of a tumor. The diagnosis between this condition and an ovarian tumor with a twisted pedicle must depend largely on a history of possible pregnancy. Perforation of an appendix may give rise to a tumor of considerable dimension. In all suddenly appearing tumors of the lower abdomen, however obscure the diagnosis, intervention is demanded if the symptoms are the least urgent. A tumor that has attributes of sudden formation, tenderness, hæmorrhage, and profound constitutional disturbances demands surgical relief as soon as possible.

OBSTETRICS.

UNITED STATES.

The Indications for the Employment of Cæsarean Section, Symphyseotomy and Craniotomy in Contracted Pelvis.

J. WHITRIDGE WILLIAMS (*Richmond Jour. of Practice*, September, 1900) says that within the past two years many articles have appeared from careful statisticians upon the question of Cæsarean section and symphyseotomy, which have placed the former upon much firmer ground than it previously occupied, by showing its slight mortality and its good results. It may be briefly stated that the mortality of Cæsarean section, when performed upon uninfected cases by competent operators, is less than 5 per cent., and should be no greater than the mortality following operations for uncomplicated ovarian cystoma. But when performed upon infected cases the results are disastrous. Pinard, the most enthusiastic advocate of symphyseotomy in France, recently reported 100 consecutive cases of symphyseotomy with twelve maternal deaths, but several of the cases were profoundly infected before the operation, and the corrected mortality would be about 5 per cent. Bar collected statistics from 149 symphyseotomy cases in the hands of four able operators, and found a maternal mortality of 6.7 per cent.

In comparing the convalescence after the two operations it is found that the patients recovered more rapidly and comfortably after Cæsarean section, being able to walk, on the average, within three weeks; while after symphyseotomy it averaged thirteen weeks before the patient could walk. The ability to walk after symphyseotomy is directly proportionate to the degree of pelvic contraction, the women having the least pelvic deformity being able to walk and work soonest. This would seem to indicate that the sacro-iliac synchondroses are considerably damaged by syphyseotomy performed upon women with marked pelvic deformity. After Cæsarean section women could return to hard work in four or five weeks, but not until after four or five months after symphyseotomy; this fact must be taken into consideration when the patient belongs to the working class.

Pinard reports the fœtal mortality after symphyseotomy at 13 per cent., and Bar's statistics show an infant mortality of 9.39 per cent.;

the comparison of this with the practical absence of fœtal mortality following Casarean section furnishes an additional argument for the latter. This latter operation is more satisfactory from a surgical standpoint, giving a clearer view of the field of operation, and, moreover, enabling one to complete the operation, no matter how great the disproportion between the size of the child and the pelvis; while in symphyseotomy an incorrect estimate of the disproportion may necessitate the performance of craniotomy afterward. The details of the after-treatment are all in favor of Cæsarean section; there is a clean abdominal incision, instead of a wound at the pubes which requires drainage. There is no danger of injury to the soft parts, no necessity for prolonged catheterization, and the patient is spared the tedious convalescence. In view of the good results following Cæsarean section the former indication for this operation of a conjugate vera of not over 5½ cm. should be extended to 6½ cm., provided the child is alive. Where the conjugate vera is 7 cm. it is advisable to allow the patient to go into labor, and if the head rapidly molds, spontaneous delivery may occur, but where the head shows no signs of descending, Cæsarean section should be performed without attempting to deliver. Where the pelvis is a little larger, an attempt may be made to deliver with forceps, applied preferably over the jugo-parietal diameter of the head. If the head does not follow a few tractions, Cæsarean section should be performed.

In women having normal pelves but very large children, and in transverse presentations with a living child, while Cæsarean section is the ideal operation, the patient is already often infected, and decapitation is the best treatment.

The typical conservative Cæsarean section is the best, but where there has been infection or great danger of it, supravaginal amputation or the total removal of the uterus should be performed. The question of the sterilization of the patient in order to prevent the recurrence of pregnancy must be considered. If the ovaries are healthy it is wise to leave them; the tubes may be excised and the uterus amputated. Ligating the tube in two or three places is not sufficient, as Reis and Fränkel have shown that the ligatures may disappear and the lumen of the tube become patent. The best method to establish sterility with the least discomfort to the patient is to excise the tubes and uterine cornua by wedge-shaped incisions. Where the parties concerned are intelligent the question of sterilization may be left to their decision.

Where the child is dead, cranitomy, if properly done in an unin-

fected woman, is almost devoid of danger, although Pinard reports a maternal mortality of 11.5 per cent. Where a woman is infected or is so situated that no one is at hand competent to perform Cæsarean section, the writer is of the opinion that craniotomy upon the living child is justifiable.

The question of the induction of premature labor in women with contracted pelves is important. In order to be efficacious it must be performed from six to eight weeks before the date of expected confinement. Pinard and Charles report a fœtal mortality of 33 and 36 per cent., respectively. With this poor showing for the child, Cæsaren section is the better operation except in multiparous women with nearly normal pelves who have repeatedly given birth to large children who have died during labor. Here the probability is that the children will be possessed of sufficient vigor to survive premature delivery. In closing the necessity of skill, good surroundings and a non-infected patient must be emphasized in contemplating a Cæsarean section.

Pregnancy complicated by Suppuration of Fibroids.

CHARLES GREENE CUMSTON (*Medicine*, September, 1900) says that the septic complications of fibroids and pregnancy have two sources: they are either produced indirectly by the fibroid, following any obstetrical manipulations made necessary by the presence of the growth and not conducted in an aseptic and antiseptic manner; or directly from a necrosis of the growth produced by laceration or compression undergone during labor, or following a softening of the fibrous mass during pregnancy. Even after a perfectly normal labor numerous lesions may be produced in the lymphatic and venous channels which allow easy access of pathogenic bacteria if the strictest asepsis be not observed. Two cases seen by the writer were as follows: Case I. was seen four weeks after a normal, though somewhat tedious, labor. On the 26th day the patient had a chill and a temperature of 39° C. The abdomen was distended, the uterus reached to the umbilicus, the cervix was soft and the dilated uterine cavity filled with fœtid pus. In the right iliac fossa a pus-pocket communicated with the uterine cavity. This was opened by posterior colpotomy and found to contain the débris of a fibroid tumor which had been compressed during labor and undergone gangrene. The pocket was opened and drained and the patient recovered. Case II. was a woman who had had four miscarriages at the second month in the last five years and was then in the fourth month of pregnancy complicated by a fibroid.

Pelvic peritonitis developed a few weeks later and a five month's fœtus was delivered. The tenth day there was a chill, rapid intermittent pulse and a temperature of 40° C. Laparotomy showed a large subperitonæal fibroid firmly adherent to the parietal peritonæum, the omentum and the intestines. There was fluctuation at different points in the tumor, and an incision gave issue to a quart of yellowish pus. The pocket was drained, as the patient's condition forbade further operation. She lived only twelve hours.

There are a few rare instances of so-called spontaneous purulent disintegration taking place in fibroids during pregnancy which were in all probability due to septic infection. In one such case there was an ovarian cyst and a fibroid of the uterus with torsion of the pedicle, causing gangrene. Local inflammatory changes took place in the neighboring intestinal coils, intestinal bacteria invaded the growth and suppuration resulted.

In certain cases there is an œdematous softening of the fibroid due to hæmorrhage into the neoplastic tissues, resulting in cystic formation and followed by necrobiotic disintegration. An engorgement of lymph results, and if any chance for infection offers after delivery the neoplasm becomes rapidly purulent.

The Intra-uterine Use of the Rubber Balloon in Obstetrics.

W. Rubeska (*Obstetrics,* September, 1900) says that since 1894 he has employed this method at the clinic for midwives in Prague for the following purposes:

1. The induction and acceleration of abortion.
2. The induction of premature labor.
3. To take the place of the ruptured amniotic sac in premature rupture of the membranes.
4. To strengthen the uterine contractions.
5. To hasten delivery in the presence of danger to mother or child, or both.

Braun's colpuerynter with walls of extra strength (small and large sizes), also the inelastic variety interlaid with cotton material have been used. In urgent cases the bag of Champetier, usually without traction, was used. Contractions are aroused and the cervical canal dilated much more certainly and effectively than by the solid dilators or the iodoform gauze tampon. The operation is, moreover, simpler and safer. The technique is simple. If the canal will admit one finger the external genitals are thoroughly disinfected, the portio vaginalis

exposed by a Simon's speculum, the anterior lip hooked down and the bag, disinfected by boiling and rolled upon itself, is introduced into the uterus and filled with sterile salt solution. Where the canal is not dilated tents or a bougie may be used and the bag then introduced and left in position until expelled by the pains. If pains are not excited the bag may be weighted.

In 36 cases of dry labor in which this method was employed delivery was spontaneous in 24 cases, the average duration of the labor after the introduction of the balloon being nine hours. In cases of hæmorrhage and eclampsia the results have been most satisfactory.

Pregnancy following Ventral Fixation of the Uterus.

LOUIS FRANK (*Ibid.*) reports the case of a woman upon whom he had operated for inflammatory pelvic disease, removing one tube and ovary. At the same time a lacerated perinæum was repaired, and the displaced uterus, after having its peritonæal covering abraded, was brought into contact with the anterior abdominal wall and fastened there by a through and through suture. Two years later she became pregnant. During the entire course of the pregnancy she suffered from much pain, it being necessary to keep her in bed much of the time and under the influence of morphine. Several times it seemed impossible to prevent the occurrence of premature delivery, but she went on to full term and gave birth to a child without any serious difficulty. Some months later she began to complain of great pain in the pelvis at intervals, and examination showed that the uterus was down behind the promontory of the sacrum and could not be replaced by manual manipulation or the use of the sound. As she was suffering so much a vaginal hysterectomy was advised, but when the patient was fully anæsthetized it was found that the uterus was freely movable and could be readily replaced, while the remaining ovary was small and healthy. Trachelorrhaphy, posterior colporrhaphy and curettage were performed, and the patient has since been well and free from pain. The adhesion between the uterus and the abdominal wall had evidently been separated by either the labor or during the pregnancy.

Fibroid Tumors of the Uterus complicating Pregnancy.

LEWIS S. MCMURTRY (*N. Y. Med. Jour.*, September 1, 1900) says that in consequence of the fact that fibroid tumors of the uterus occur most frequently at the period of life when reproductive activity is at

its height, pregnancy associated with uterine fibromyomata is not infrequent. In many cases operative interference may not be required, but in all cases pregnancy is made more distressing and labor more perilous. With submucous fibroids the uterine mucosa is so altered that pregnancy rarely occurs, and if conception takes place abortion soon follows. Small subserous tumors do not usually seriously disturb pregnancy or parturition. Large uterine fibromyomata are usually interstitial, but as they increase they assume also subperitonæal relations.

The site of the tumor has much to do with its relation to pregnancy, those in the lower portion of the uterus causing more disturbance. The density also forms an important factor. The history of these tumors embraces various accidents and intrinsic changes. They may undergo necrotic changes from pressure, followed by suppuration and general sepsis; they are prone to degeneration, which often extends to the adjacent uterine wall; malignant changes are not uncommon, and the coexistence of suppurative inflammation in the appendages is frequent. Owing to the increased blood supply these tumors, especially the interstitial, increase rapidly in size during pregnancy.

The dangers due to the condition under consideration are: (1) Pressure requiring operative interference; (2) changes in the tumor or adnexa producing peritonitis; (3) a predisposition to vicious placental implantation and malpresentations; (4) degenerative changes facilitating rupture of the uterus; (5) hæmorrhage during and after labor from imperfect uterine contractions. Gusseron showed that in 228 cases of labor complicated by fibroids more than one-half of the mothers and two-thirds of the children died.

The diagnosis of this complication is a matter of difficulty. Vander Veer has tabulated seventy cases in which it was unsuspected prior to operation. The treatment of this condition requires deliberate judgment. Tumors of the fundus, unless very large, do not, as a rule, demand operation. Tumors of the lower segment causing pressure and pain and offering serious obstacles to delivery must be removed. Hysteromyomectomy is the safest operation unless the pregnancy has advanced to almost full term, when a Porro-Cæsarean section may save both mother and child.

Occipito-Posterior Presentations.

H. V. SWERINGEN (*Cincinnati Lancet-Clinic,* September 22, 1900) says that these presentations occurring in primiparæ invariably require

forceps, and that lacerations of the peritonæum as invariably occur, often extending into the rectal sphincter. For reasons too obvious to need enumeration a properly incised wound of from one-half to two inches is more desirable than a ragged lacerated tear, and the writer holds that in all cases of occipito-posterior presentations the rupture of the perinæum should be anticipated by an incision of the stretched perinæum. A grooved director passed between the head and the perinæum will save the scalp from injury. In cases of inability to locate the fontanelles and thus determine the position the mere application of forceps will establish with certainty the character of the presentation. If it be occipito-posterior the handles of the forceps cannot be made readily—if at all—to assume the natural position in occipito-anterior positions—that of resting upon the floor of the perinæum.

Observations on the Obstetric Surgery of Pelvic Contraction.

CHARLES JEWETT (*Brooklyn Med. Jour.*, October, 1900) says that the common impression has been that pelvic contraction is much less frequent in America than in Europe, and that it is practically unknown in native-born women, but the fact is that only recently has routine pelvimetry been practiced on this continent, and not until we have from all sections of the country carefully recorded data can accurate conclusions be reached. In the Johns Hopkins Hospital routine measurements of the pelvis in one thousand women revealed 13.1 per cent of contracted pelves; 469 of these were colered women, and here the cases of contraction amounted to 19.83 per cent., while in the 531 white women the pelvis was contracted in only 7.15 per cent. of the cases. Reynolds, of Boston, reported observations on 2,127 pregnant women, indicating that about 7 per cent. of native born white women had contracted pelves. In the statistics gathered in Europe there exist great discrepancies, which must be attributed in part to lack of unity in the methods of observation and measurement. While much may be done to secure uniformity, entire agreement is hardly possible. Racial peculiarities in the size of the fœtal head complicate the difficulty.

The true conjugate, which is the most important index of the pelvic capacity, is seldom measured directly, but is estimated from the diagonal conjugate. The difference between the two varies according to the depth, thickness and inclination of the symphysis and the height of the promontory. This correction must be necessarily a matter of judgment, and here the personal equation comes in. Some arbitrary standard must be adopted. Complete and exact measurement of the pelvis

is of somewhat difficult technical detail, and requires considerable training, but for the requirements of general practice pelvimetry is capable of simplification.

External pelvimetry may be carried out with any simple pelvimeter or even with carpenter's calipers and a tape measure. The external conjugate is the essential diameter, and this is best measured from the depression directly below the last lumbar vertebra to a point on the pubic surface a little below the upper margin of the symphysis. With an external conjugate at or below 6 inches, or even below 6¼ inches, the pelvis is invariably contracted. At or above 8 inches the pelvis is almost surely ample. Between these two measurements the question is in doubt and must be settled by other measurements.

Internal pelvimetry. The most important of the internal diameters is the diagonal conjugate. In general practice this is best obtained by the manual method. If it is 4½ inches or less the pelvis is contracted and conversely. Kyphotic pelves and obstruction by tumors are exceptions, but these are readily recognized. Occasionally pelves are met with whose contraction is confined to the outlet, but if to the measurement of the diagonal conjugate be added the sacro-pubic diameter, existing deformities can scarcely be overlooked. If pelvimetry were made a part of every obstetric examination the tragedies of the lying-in room would be largely prevented. The external appearance of a woman is no guide to the pelvic capacity. The measurements should be taken not later than the eighth month of pregnancy. The indications of pelvic contraction at labor are failure of the head to engage during labor or after well directed supra-pubic pressure, or failure of tentative traction with forceps. In partial engagement forceps should always be tried with the Walcher posture before resorting to operative procedures. Spontaneous delivery by extreme moulding of the head takes place with efficient pains in apparently impassable pelves, and unless the contraction is extreme, nature should always be given a chance. Forceps is preferable to version, as time may be allowed for the moulding of the head. Craniotomy on the living child should never be performed unless in cases of extreme maternal exhaustion prohibiting Cæsarean section.

The induction of premature labor offers better chances for the mother than for the child. Symphyseotomy is limited to those cases where not more than half an inch gain in the conjugate is required. It offers a fair chance of success in considerable exhaustion where Cæsarean section is attended with a high mortality. But where the woman is in good condition Cæsarean section is by far the most scientific

method, and the prognosis for both mother and child is good. The question of the removal of the uterus in these cases is much discussed. Infection springing from the uterine cavity is the chief factor in mortality in Cæsarean section, and where there is probable infection, in all cases of gonorrhœa and in persistent atony of the uterus, hysterectomy should always be performed. Ethical considerations demand the consent of the woman before hysterectomy is performed.

The Treatment of the Breasts and Nipples during Pregnancy and the Puerperium.

GEORGE L. BRODHEAD (*The Post-Graduate,* October, 1900) says that during pregnancy little needs to be done for the breasts or nipples except to bathe them each day with castile soap and warm water. If the nipples are tender a small quantity of albolene on a piece of sterile gauze may be laid over the nipples each night. If the nipples are small or flat the patient may, with perfectly clean fingers, lubricated with albolene, draw them out by careful manipulation (each day, for fifteen minutes) during the last eight weeks of pregnancy. Astringents, to harden the nipples, should never be used, as they increase the tendency to fissures.

During the puerperium the most frequent source of infection in the breasts is careless treatment of the nipples. The nipples and the child's mouth must be washed with a bit of sterile gauze wet in a saturated solution of boric acid made with sterile water. This must be done before and after each feeding, taking care that the fingers of the nurse are perfectly clean as well. Between the nursing periods the nipples are kept covered with albolene on sterile gauze. Where cracks or erosions form, after washing with boric acid solution subsequent to nursing, a ten per cent. solution of nitrate of silver is carefully applied to the raw surface with a bit of cotton wrapped on the end of a match or wooden toothpick. Remove any excess of silver and apply albolene. A nipple shield may be used if the fissures are persistent.

If the breasts are not to be used for nursing cotton should be placed in the axilla, around and between the breasts and the binder applied as firmly as the patient can endure. This should not be changed unless necessary, for manipulation increases the discomfort. The fluids taken may be limited and the bowels kept freely opened with Rochelle salts. Small doses of codeine may be given if the pain is severe. Where the patient is nursing, and the breasts become painful from over-distension, a supportive binder will relieve the pressure and prevent caking, which

often is due solely to the pendulous condition. Where there is much pain and tenderness careful massage is the best treatment, its idea being to distribute the milk evenly rather than to express it. The breast pump is apt to add to the trouble by creating an artificial demand and stimulus. Rochelle salts and a limitation of the fluid diet is useful also in these cases. While a moderate rise of temperature often accompanies distension of the breasts there is rarely a corresponding rise in the pulse rate unless the breasts are infected. When a painful, indurated spot is found accompanied by fever and rapid pulse, active measures must be instituted. Massage will often bring the pus out through the nipple, where it must be carefully wiped away. This massage must be skilfully performed or it will be worse than useless. It is always painful, but is generally preferred to the idea of an operation. Massage may be done once in four hours, and an ice bag applied in the interval. Where this treatment fails an incision must be made in a line radiating from the nipple so as to cut as few ducts as possible, and must be extensive enough to open up all pockets of pus. After hæmorrhage has been checked by iodoform gauze, one per cent. wet carbolic gauze is used for a dressing and light packing.

Great Britain.

The Prevention and Treatment of Post-Partum Hæmorrhage.

John W. Byers (*The Lancet*, September 15, 1900) says that it has been estimated that the average amount of blood lost by the parturient woman is about one pound, but in practice it is soon found that every woman is a rule unto herself, what would be normal for one amounting to hæmorrhage in another. When there is a sudden excessive flow or a continued lesser flow accompanied by pallor and a rapid pulse of low tension, the case may be considered hæmorrhage. The causes may be divided into two groups. Those due to uterine atony and those due to wounds of any part of the parturient canal. The first are most numerous and important. The following conditions may lead the accoucheur to expect the onset of hæmorrhage: I. *History.* (1) Hæmorrhage at previous confinement; (2) rapidly succeeding pregnancies; (3) want of exercise and high living; (4) elederly primiparæ; (5) patients with pre-existing metritis. II. *During pregnancy.* (1) Overdistension of uterus with twins or hydramnios; (2) uterine myoma; (3) albuminuria; (4) extreme mental depression; (5) excited vascular system. III. *During delivery.* (1) Sharp, quick pains, ceasing suddenly and with rather long intervals; (2) a pulse of low tension, jerking nature and rapid rate toward the end of delivery.

Prophylaxis in cases of expected hæmorrhage. (1) During pregnancy, exercise, baths and laxatives with light diet and avoidance of stimulants; (2) during confinement, slow delivery of the fœtus following it down with the hand on the fundus, and puncture of the membranes (in a head or breech presentation) when the os is nearly dilated, keeping the patient recumbent in bed. In some cases the writer has given 10 grains of chloride of calcium thrice daily for two weeks before delivery, and Atthill of Dublin, in cases where there had been hæmorrhage in previous confinements, gave a tablespoonful of the following mixture thrice daily: liquid ext. of ergot, 2 drachms; solution of strychniæ, 1 drachm; diluted hydrochloric acid, 2 drachms; infusion of ergot to make six ounces. In anæmic women the hydrochloric acid was replaced by one drachm of iron and ammonium citrate. Two measures should be adopted in every case: (1) proper management of the third stage; (2) never deliver in the absence of pains. *Treatment.* (1) External uterine massage. (2) Large quantities of hot water (118° F.) containing a little salt given through a double current tube passed up to the fundus. (3) Where hæmorrhage is due to retained adherent placenta or a portion of placenta and abdominal massage fails to bring it away, the attendant's hand must be introduced into the uterus; this must always be followed by a hot creolin intra-uterine douche. (4) Gauze packing of the uterus. (5) Drawing downwards the uterus with tenaculum forceps passed through the lips of the cervix, this method acts by kinking and compressing the uterine arteries. Schauta of Vienna thinks atheromatous vessels are present in the placental area in such cases, and advises laparotomy in hospital cases, and in private cases eversion of the uterus into the vagina by pressure on the fundus, so that the bleeding vessels may be caught, or an india-rubber ring or a gauze bandage fastened around the everted uterus to cut off the circulation. This pressure should not be maintained for more than six hours on account of the danger of gangrene. When the bleeding stops the uterus may be re-inverted. (6) Injection of perchloride of iron solution, a doubtful measure and not without danger. Hæmorrhage due to lacerated wounds will be controlled by the sutures used in repairing the lacerations. In rare cases of bleeding due to the injury of a previously existing intra-uterine tumor, the tumor should be removed if possible and gauze packing introduced. *After treatment.* Lowering of the patient's head, subcutaneous injections of ether and strychnine, hot saline enemata and the injection into the issues under the breasts of hot saline solutions. Nourishment which can be quickly absorbed and easily digested should be freely given.

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VAGINAL *VERSUS* ABDOMINAL HYSTERECTOMY FOR CANCER OF THE UTERUS.*

By H. J. Boldt, M.D., New York.

The question proposed for discussion by the chairman of this section is both interesting and important to those engaged in our line of work. I must confess it is, in my opinion, impossible to favor the adoption of either method for *all cases.* The trend of opinion in Germany, and with some in the United States, is in favor of the abdominal operation in all cases. Speaking for myself I should say that only in exceptional instances should abdominal hysterectomy for cancer be performed until we are in possession of facts proving its superiority over vaginal hysterectomy in ultimate results. The reason for my opinion is based on the following facts:

Cancer of the uterus should always be divided into three varieties, according to the original anatomical site of the neoplasm: First, cancer of the infravaginal portion of the cervix; second, cancer of the supravaginal portion of the cervix; third, cancer of the uterine body.

This division is not dependent upon the histologic difference of the disease in the several uterine segments, but is due to the variation of the extension of the neoplasm to neighboring structures from the starting point.

To make this clear: We know that cancer beginning in the mucous membrane covering the vaginal portion of the cervix has a decided tendency to encroach upon the vaginal mucosa, and that the histologic

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appearance of the neoplasm in both situations is similar. This mode of extension, however, is not a set rule, but the disease may extend in the form of an infiltration into the perivaginal tissue beneath the mucosa. It is necessary for one to recognize such change in order that we may proceed with the proper operation. The lymphatics are not affected until late, after the cellular tissue has been invaded, except in rare instances, and then the glands first involved—the iliac glands—can usually be palpated by careful bimanual rectovaginal examination under general anæsthesia.

Cancer of the supravaginal portion of the cervix has the tendency to extend into the parametria and upwards into the uterine body; whereas the mucosa covering the vaginal portion, and the vagina, are implicated very late, if at all. The iliac glands are involved more frequently and earlier than in the previous form, which is due to the earlier invasion of the cellular tissue when cancer has its origin in this segment of the cervix.

Cancer beginning in the body of the uterus not infrequently extends downwards into the cervical mucosa. In corporal cancer also, the glands are not invaded until late, but in such cases those involved are the retro-peritonæal and lumbar glands.

From post-mortem observations, it must be conceded that the blood-vesels are affected only in the late stages of cancer, and that metastases seldom occur through their medium. The lymphatics are the usual means of extension of the disease.

The variation of progress of uterine cancer at different periods of life, and under varying physiological conditions, finds an explanation in the difference in circulation, size of the vessels, and lymphatic activity. To prove this by an illustration: Consider a pregnant woman in the beginning of the thirties, with cancer of the infravaginal portion of the cervix, in contrast to a woman five or ten years past the menopause, with a similar condition of the cervix. No one could question the rapidity in the growth of the neoplasm in the young woman with enlarged vessels, increased circulation and greater lymphatic activity, compared to the slow progress of the neoplasm in the older woman with narrow vessels and impaired lymphatic activity. Provided both these cases are fit for radical operation, greater chances for immediate good results lie with vaginal hysterectomy in the case of the older woman, and since the lymphatic circulation is less active and the vessels smaller, the ultimate result is equally good.

If it is conceded that cancer progresses through the medium of the lymphatics, and this must be acquiesced in, if observations count for

anything, then vaginal hysterectomy should positively be preferred in such case as the latter.

Abundant experience has shown that the glands are not usually invaded by the disease until late; even in advanced stages of cancer of the uterus the lymphatic glands are not constantly invided by cancer elements. Numerous post-mortem examinations of women who have died of cancer have shown that the glands are free in more than 50 per cent. of the cases. Experience has also proven that recurrences after radical operation, seldom take place in the glands.

Let us consider the advantages of each form of operation:

Vaginal hysterectomy permits a smaller opening of the peritonæal cavity; it usually takes less time to perform, thus avoiding, to a greater extent, the element of shock; convalescence is much more rapid; the abdominal wound, with its occasional consequences, is avoided; the direct mortality is smaller. The objection held against the vaginal operation, that one must work in the dark, by the sense of touch, does not hold good in my experience, except in that step of the operation when the bladder is separated from the cervix, and even this work can be kept within sight to a great extent by the proper application of retractors.

Certainly, vaginal hysterectomy for cancer has no place in surgery, if the operator adopts a technique, as it was employed in former years by many, and as it is occasionally employed now—namely, to keep so close to the uterus as to remove it only, and not extirpating any cellular tissue, with the lymphatics contained in it, I have always urged, and practised, the extirpation of the parametria, as far as possible, and in malignant disease of the vaginal portion, to also resect a large portion of the upper part of the vagina. By this procedure we remove to a great extent the cancer-conveying channels.

The advantage of abdominal hysterectomy over the vaginal operation is, that it permits the more extensive removal of the lymphatics; and of the iliac, retroperitonæal, and lumbar glands. But as we have seen, the glands are rarely affected until late, when the disease is past the boundaries of a radical operation, with the hope of achieving a good ultimate result, is is therefore a question with me whether it will give a larger percentum of permanent recoveries. Time alone will answer this.

The only cases in which the abdominal operation is indicated, with my present views, are those in whom the uterus is too large or too adherent from inflammatory processes to be removed per vaginam without

morcellation, and those which the diagnosis of glanular enlargemetn is made.

What we should strive for, to get better statistics in permanent recoveries from cancer, is to teach the profession at large the importance of an early diagnosis, and to make a positive diagnosis of every instance presenting the slightest suspicious subjective or objective symptom. Too often do we see patients treated as having some trivial trouble until the patient is past the time for a radical operation with the hope for a good future outlook.

DRAINAGE IN ABDOMINAL SURGERY.*

By J. W. Long, M.D., Salisbury, N. C.,
Emeritus Professor, Diseases Women and Children, Medical College of Va.

Many of the problems involved in abdominal surgery have been settled, not always in the same way by different men it is true, but by a general consensus of opinion, the outcome of our gradually accumulated knowledge, many of the procedures practised in abdominal surgery have been agreed upon.

For instance, every surgeon agrees and insists that his hands, instruments, the field of operation, etc., must be clean, surgically clean; and it doesn't matter whether a man believes in "bugs" or not, he says "you must be clean"; nor does it matter whether he scrubs his hands till the superficial epithelium slips, dyes them and bleaches them in strong chemicals, or merely scrubs his hands and rinses them in alcohol, still he emphasizes that you must be clean. Not only is cleanliness next to godliness in surgery, it is godliness itself.

While some surgeons make a short abdominal incision and some make a long incision, all agree that the incision should be sufficiently ample to allow the operator to work easily and expeditiously.

While some surgeons employ silk ligatures and sutures within the abdomen, and others use catgut, some steam their silk fractionally, others boiled it one time only, still others do both; some sterilize their catgut by dry heat, others cumolized it; yet all maintain that whatever material is employed and by whatever process it is prepared, it must be absolutely sterile, non-irritating, easily absorbed, and the smallest size commensurate with safety.

*Read before the Southern Surgical and Gynæcological Association at Atlanta, Ga., November 13, 1900.

We all agree that loss of blood is the chief factor in the production of surgical shock.

I dare not include in this category of agreements the various methods of closing the abdominal incision, for if the gentlemen who practise the different methods of closing the abdomen were to suddenly agree, we might be forced to draw the same inference that the new waiter did at the medical banquet. You have all heard that story. After several courses had been served, the new waiter said to the old waiter, "I believe these doctors are getting drunk." The old waiter said, "I don't see any signs of it." The new waiter replied, "I don't either, except that they are all beginning to agree with each other."

Touching many other points there is a general consensus of opinion why can we not settle upon some well-defined principles in the matter of abdominal drainage. To this end I have invited the attention of this distinguished body. Ever since Robert Houston in 1701 incised the abdomen of Margaret Millar and left a "small tent in the lower angle of the wound," drainage has been considered a question of prime importance in abdominal surgery. Indeed, incision and drainage were about all the surgeons dared to do till the immortal McDowell deliberately removed a tumor from Mrs. Crawford in 1809.

That drainage is essential and desirable in some cases is evident; that it is unnecessary and undesirable in many cases is equally clear.

Let us then consider briefly

The Objects of Drainage.

The chief purposes for which drainage is employed are as follows:

1. To drain away existing septic material.

2. To afford an exit for the sepsis when the operator fears he has possibly infected his patient.

3. To provoke adhesions and thereby wall off weak spots from the remainder of the abdominal contents.

4. To keep the peritonæal cavity free of blood and other fluids.

5. To allow of a more certain knowledge of the conditions present in the abdomen.

6. Gauze drains are sometimes employed as tampons to control hæmorrhage.

1. To drain away septic material.

There can be no question of the propriety of drainage in those cases where sepsis is already present. Its value has been emphasized many times in cases of suppurating appendicitis, which may be taken as typ-

ical of septic cases. But it is to be noted when we come to apply this rule of action to other cases presumed to be already septic that the surgeon who does not follow a routine formerly drained many cases that he now feels safe in closing without drainage. By way of illustration, take the following recent case occurring in the hands of the writer:

Mrs. S., a very small woman, age 23, white, delievered forty-eight hours before she was seen by the writer, of an average-sized child, condition only fair, pulse 120, temperature 101°, emaciated, abdomen greatly distended with an ovarian cyst. A few days' delay was advised. After ten days abdominal distension was increasing, respiration was beginning to be embarrassed. Contrary to the writer's usual custom he tapped the abdomen, drawing off thirty pints of heavy gelatinous fluid. This relieved the dyspnœa, but the evidences of sepsis continued. After a few days, the patient having gained a little strength, she was taken to more comfortable quarters and the tumor removed. The tumor when removed weighed thirty-three pounds, which, added to the thirty pounds removed at the tapping a few days previously, made sixty-three pounds. The tumor and pregnant uterus probably weighed as much as the woman. The cyst was multinocular, containing many different kinds of fluid. Adhesions were numerous, and evidences of widely spread peritonitis were present. Because of the friability of the cyst wall a quantity of the fluid escaped into the abdominal cavity. The abdomen was thoroughly washed out and left filled with salt solution, and the incision closed without drainage. The recovery was perfect.

Formerly it would have been considered necessary to drain this case because of the sepsis and peritonits.

Nor is it always necessary to drain after removal of pus tubes even when the sac ruptures and the parts are bathed in pus, since it is well known that pus is frequently free from pathogenic germs. This is especially true in old abscesses. Even the presence of some forms of pathogenic germs, noticeably the gonococci, is not an indication for drainage. The principle of drainage in septic cases is decidedly applicable when we invade the peritonæum through the vagina. Indeed, in these cases, as in suppurating appendicitis, the chief object is to drain the pus foci and serum-distended tissues. Here we have ideal drainage, for gravity aids capillarity, and it is oftentimes marvelous how quickly these patients recover.

2. When the operator infects his patient.

After the earlier operators got over their dread of opening the

peritonæum, surgeons gradually learned that merely opening the peritonæum was a perfectly safe proceedure, provided the operator's hands and implements were sterile. In this day it is almost inexcusable for a surgeon to infect his patient, yet almost all of us say, "if we handle the parts a great deal it is better to drain"; unmindful of the fact that we are virtually admitting that we have probably infected our patient. With instruments, sutures, and sponges thoroughly sterile, with our hands conscientiously scrubbed, washed in chemicals, and the use of rubber gloves, prolonged handling of the parts ought not to be an indication for drainage.

However, the unexpected occasionally happens.

Last month while the writer was doing a hysterectomy in a private house in a distant city, the patient suddenly stopped breathing, and she looked like all the blood in her body had suddenly side-tracked itself into the capillaries and was determined to stay there. It required prolonged efforts at artificial respiration with the patient in the inverted position to establish the respiratory function. But for the intelligent, faithful efforts of professional friends the patient must have died. The writer was kept busy trying to protect the open abdomen. Of course chloroform was the anæsthetic used. A friend of mine had just lost a patient from the same anæsthetic a few days before.

After this anæsthetic episode everything went wrong as they usually do when one thing gets awry. The outcome was that when the operation was finished we did not know whether the patient was infected or not. For fear that she was, drainage was employed. The recovery was stormy but satisfactory in the end.

3. To promote adhesions and wall off weak spots:

The well known property of the peritonæum to throw plastic lymph around any foreign body is often utilized when after injuries to the bowel, ureter or other viscus there is fear of leaking and consequent contamination. The gauze drain here serves the dual purpose of isolating the vulnerable part and drainage.

4. To keep the peritonæal cavity free of blood and other fluids:

Just here is a point of departure. One school cites the fact that blood, serum or any innocuous fluid when retained in the abdominal cavity makes an excellent culture medium, and claims that the way to prevent infection is to keep the peritonæal cavity free of fluids. Even when hæmorrhage has been controlled advocates of this plan expect in most cases, especially where many adhesions have been broken up, that there will be enough oozing to require drainage. They

usually use a glass drain and empty it frequently with a long-nozzle syringe.

The other school takes the position that the peritonæum is amply able to take care of any reasonable amount of oozing blood or indeed a large amount of other fluid, even when there is mild infection present, and they encourage this absorptive function of the peritonæum by leaving in its cavity a liberal quantity of normal salt solution, which is not only easily absorbed itself but dilutes the oozing blood and renders it more readily absorbed. Those who follow this teaching close the abdomen without drainage, no matter how many adhesions have been broken up or how much fluid is left in the peritonæal cavity.

5. To allow of more certain knowledge of the conditions present in the abdomen.

This argument is used in favor of the drainage-tube, particularly in cases where these are great fears of hæmorrhage. It must be conceded that hæmorrhage occurring within a few hours after operation may be detected by means of the drainage-tube and syringe. The same is true to a less degree of the gauze drain.

The objections to this argument is that in the vast majority of cases it is unnecessary to inspect the abdominal cavity to see if there is hæmorrhage. The use of suture material that will not readily break or untie, with careful inspection of every possible bleeding point, ought to insure against hæmorrhage; certainly this is true in all cases in which the tissues are not softened by sepsis or maligancy.

6. Gauze tampons.

There are a variety of circumstances under which it is expedient to pack a bleeding point with gauze tampons to control the hæmorrhage. In these cases the gauze, of course, also acts incidentally as a drain.

Histology and Physiology.

Many of the reasons advanced in favor of drainage were promulgated before the histology and physiology of the peritonæum were understood.

Wegner in 1877 was the first to demonstrate the wonderful ability of the peritonæum to absorb fluids even as much as the entire weight of the animal in twenty-four hours.

Muscatello in 1895 proved that while there were no stomata between the peritonæal endothelium, that fluids and minute foreign bodies passed between the endothelium of the diaphragmatic peritonæum by a retraction of the cell protoplasm, from thence they were taken up by

the open spaces found only in this portion of the peritonæum, and passed on into the lymph circulation. This observer demonstrated a normal intraperitonæal current capable of carrying fluids and small bodies to the diaphragm, and this, too, irrespective of position, though gravity has a marked influence on the current.

It has also been shown that the leucocyte is the principal bearer of foreign particles along the current just described.

Another fact pertinent to the question is that the leucocytes and other factors producing this intraperitonæal current bear off pathogenic bacteria along this wonderful highway as readily as they carry innocuous substances, provided the enemy be not too numerous or too virulent.

These facts open up to our view the surprising capabilities of this highly vitalized membrane, and the abdominal surgeon should doff his hat to his ablest ally—the peritonæum.

Objections to Drainage.

Excluding cases of acute suppurative infection, such as appendicitis, pelvic abscess that can be reached through the vagina, and widespread general peritonitis, drainage is objectionable for many reasons, among which are the following:

1. It is deceptive.

The writer has tried all kinds of drainage and found them unsatisfactory. Its use is not a guarantee against infection—the ever-present menace to the patient; in fact, both gauze and the glass tube constitute an additional source of infection.

2. Cases not drained do better.

The observation of any considerable number of cases will demonstrate this. A smaller per cent. of the patients become infected, they suffer less nausea, less pain, require less morphine, have less tympany, the bowels are more easily moved, the mortality is lowered, and, in a word, do better than cases that are drained.

3. Drainage is neither scientific nor workmanlike.

I say this with an apology and all due deference to those distinguished gentlemen present who drain most of their cases.

Take a case of large myoma or pus tubes with adhesions. To drain such a case is to say, in substance, to the patient, "We cannot open your abdomen, remove the abnormal growth, separate the unnatural adhesions, and close your abdomen without leaving your peritonæum in a condition that requires an open door." The "open door" policy

is all right for China, but not for the peritonæum. The presence of a drain is a tacit admission that we have left something undone that we ought to have done or that we have done something that we ought not to have done. Even in a case of suppurative appendicitis or pelvic abscess, if we could enucleate the sac in its entirety and without contaminating the surrounding tissues just as we do a simple pus tube, there would be no need of drainage; but since this cannot be done we must content ourselves with less complete work and leave Nature to finish the job. Joseph Price, who is known as an advocate of drainage in certain cases, is quoted as saying, "drainage is an evidence of incomplete work." In a word, when we drain we do so because we cannot do better.

TREATMENT OF INFLAMMATORY DISEASES OF THE UTERUS BY IRRIGATION.*

BY FRANK W. TALLEY, M.D., PHILADELPHIA, PA.

Adjunct Professor of Gynæcology at the Philadelphia Polyclinic. Gynæcologist to the St. Agnes Hospital.

On the evening of November 2, 1893, I reported before this Society a method of treatment for acute and chronic inflammatory diseases of the uterus by copious irrigation with hot alkaline water. At that time I had irrigated the uterus one hundred times for acute and chronic gonorrhœal inflammation, metritis, and subinvolution. I have continued to practice this method of treatment with great satisfaction to myself and comfort to my patients.

In order that the remarks may be intelligent to the Society, I will crave your indulgence in describing the method.

For many years surgeons have made use of heat and moisture in combatting inflammation—either by directly irrigating the inflamed area or by using poultices, the effect of which is an immediate comfort to the patient and an early cure of the inflammatory process. The hot irrigation affects the part in a two-fold manner: first, by constringing the capillaries and driving the blood from the part, and second, by washing away the altered secretions and inflammatory products, and especially is this true of the inflammations of the mucous membranes. Rhinologists and pharyngologists preface their treatment of the acute and chronic inflammations of their respective mucous

* Read before the Philadelphia Obstetrical Society, December 6, 1900.

membranes by the careful cleansing from altered secretions with alkaline solutions. Their theories are none the less applicable to the uterus.

The apparatus for accomplishing the irrigation of the non-puerperal uterus consists of a narrow cannula provided with two wires soldered to its convexity, which allow of the return flow of the irrigating fluid and permit the uterine canal to be washed throughout its entire extent. The cannula is curved at its extremity to provide for easy introduction, perforated at the end, and also in every direction at its distal end, and is of such a size that it will easily pass through a No. 15 French catheter scale. This cannula is attached to a fountain syringe or similar reservoir containing the irrigating fluid, which should be of at least two quarts' capacity. A bath thermometer should be provided for determining the temperature of the water.

In order that the irrigation may be carried out in ambulatory patients without loss of time, I have provided a speculum with a funnel upon its lower valve, through which the return flow may pass by means of a rubber tube to a vessel at the foot of the table or under the bed. This makes it possible to irrigate the patient without danger of wetting the clothing or the bed.

The solution used is water to which is added bicarbonate of soda —about a drachm to the quart, and enough carbolic acid to render it mildly antiseptic. The temperature of the solution for beginning the irrigation should be about 110° F., and this should be increased by cautiously adding hot water to the reservoir until the degree of tolerance of the patient has been reached. I have never been able to increase the temperature above 123° F.

The effect of the application of heat and moisture is primarily to cause a vasomotor dilatation and congestion of the part. If the irrigation be persisted in, however, the dilation of the capillaries gives way to constriction and the part becomes blanched and shriveled. This is well exemplified by the immersion of the hands into a basin of hot water. At first they are reddened, but if long exposed, blanched and wrinkled.

This fact should be borne in mind in employing this treatment. Should the irrigation be stopped during its primary effect upon the vasomotor nerves (*i.e.*, that of capillary dilatation), the patient is left with a uterus more congested than before the treatment, and with aggravated symptoms. But if the exposure to heat and moisture be continued long enough, the capillaries contract, the uterine tissue becomes blanched,

and the patient is immediately relieved of the symptoms incident to the engorgement of her pelvic organs.

The cases amenable to this form of treatment are those in which the cervical canal is patulous and readily admits the passage of the cannula. Should the uterine musculature not be softened by inflammatory process or the uterine canal be narrow and the introduction of the cannula be attended with force, the danger of uterine colic following the irrigation should forbid its use.

In adapting the method to the treatment of uterine disease, the patient is placed in the dorsal position upon the examining table, and the reservoir containing two quarts of water at a temperature of 110° F., to which the bicarbonate of soda and carbolic acid has been added, is hung upon some convenient support about four feet above the patient's level. The cervix uteri is exposed by the funnel speculum, the rubber tube of which dips into a bucket at the foot of the table. The cervix is washed with bichloride of mercury solution, 1 to 2000. The stream from the reservoir is allowed to flow through the cannula until all air has been expelled and the instrument is then carefully inserted into the uterine cavity. The weight of the syringe tube may now be supported by passing it over the patient's knee. At first the water returning from the uterus contains strings of mucus and is discolored by the endometrial secretion, but soon it becomes clear. Hot water is added to that in the reservoir from time to time, gradually increasing the temperature until the tolerance of the patient is reached, when the irrigation is allowed to continue until at least one gallon of water has been allowed to run through. The average time for this is twelve minutes. Should it be desirable to locally deplete the uterus by scarifying the cervix, this may be done before introducing the cannula, and the blood will be washed away with the return flow through the speculum. When the irrigation has been completed, the syringe tube is disconnected from the cannula, and this allowed to remain for a moment in place until the water remaining in the uterus has drained away. Should it be desirable to make application of alterative agents to the endometrium, they may now be placed upon a perfectly clean mucous surface. For the last few years the results in the treatment of metritis and subinvolution by irrigation alone have been so gratifying that I have come to depend upon it to the exclusion of intra-uterine medication. The treatment by irrigation is preferably carried out at intervals of seventy-two hours.

SOME LIFE-SAVING MEASURES IN OBSTETRIC WORK.*

By R. R. Kime, M.D., Atlanta, Ga.
Ex-President Tri-State Medical Society, Ala., Ga. and Tenn; Ex-President Atlanta Society of Medicine.

It is not the intention of the writer to present anything novel or new, but to call attention to some procedures and remedies that have proved beneficial in obstetric work, often saving life.

It is self-evident in this day that aseptic deliveries with complete emptying of uterus are essentially life-saving measures. The physician who fails in either adds mortality statistics in proportion to his failures. Leaving out of this discussion instrumental deliveries, Cæsarian section, symphysiotomies, etc., we have, as I consider, the most important life-saving measures:

First—Saline Infusions;
Second—Medicinal remedies;
Third—Serum treatment;
Fourth—Hydrotherapy;
Fifth—Drainage.

In cases of placenta prævia and postpartum hæmorrhage, saline infusions or intravenous injections are of prime importance, not only to sustain life immediately, but to lessen susceptibility to infection and hasten recovery. In infection after labor with marked prostration, saline infusions act well in many cases, diluting toxines adding volume to circulation, favoring elimination by skin kidneys, and in some instances tends to check the virulence of the infection.

Strychnia and digitaline are well-tried remedies, and worthy of confidence. In many instances they have sustained life and stimulated the vital energies, braced up a weak heart and carried patient over dangerous lines until Nature comes to the rescue.

Quinine in 10-grain doses renders valuable aid in sustaining the patient, modifying course of the infection and counteracting the effect of absorbed toxines.

The serum treatment has not yet fully established its claims but gives promise of utility where streptococci have been demonstrated to be present.

*Read before the Southern Surgical and Gynaecological Association, Atlanta, Ga., Nov. 15. 1900.

The cold bath or pack in cases with high temperature is often of value, but the hot pack is more so, especially in weak, anæmic patients. It favors elimination, cutaneous and renal; tones up nervous system, and tides over the critical period in many instances.

Elimination by skin, kidneys, and bowels are potent factors in puerperal infection, but drainage—uterine and vaginal—are life-saving measures.

I do not mean to indorse but to urge against the common practice of curetting and tamponing the uterus in cases of *septic infection following labor at or near full term.*

By uterine drainage I mean the use of as large a soft-rubber tube as cervix will admit, with a strip of gauze about the same length carried into the uterus, along with and by the side of the drainage-tube. This double, tubular and capillary drainage, to be kept up first few days in severe cases, then ordinary tubular drainage, with soft or hard-rubber drainage tube will answer.

Irrigation of uterus and cleansing tube once or twice in twenty-four hours is sufficient. Strong antiseptic solutions are contra-indicated; they irritate parts, interfere with Nature's process or repair, while mild solutions of boric acid, sterilized water, or normal salt solution cleanse parts, do not irritate, and aid in repair of endometrium.

In draining uterus, apply same principles as are used in abscesses and septic infections in other parts of the body.

What are the indications in abscess of the appendix, the brain, or any part of the body? Free drainage. What would the surgeon advise in septic infection of the hand or foot, involving lymphatics of arm or leg?

When once free drainage is established, with proper cleansing and disinfection of the part, the local condition improves, the adjacent lymphatics are relieved, and constitutional symptoms subside.

The greater the lymphatic and vascular supply, the more active the infection and the greater need for elimination with adequate drainage.

Let us remember the physiological hyperplasia of tissue that takes place in the pelvic organs of the female during pregnancy. Also remember the retrograde changes that occur after labor with the process of absorption and elimination, adding to these the traumatisms that occur during labor, and what would be a rational conclusion in cases of infection? If Nature in normal cases establishes a process of elimination by the way of the womb, let us profit by Nature's example in cases of infection.

If free drainage is the guiding principle elsewhere in the body, why should the uterus be an exception?

If free drainage will relieve abscesses and infections extending to lymphatics in other parts of the body, why not in the pelvic organs.

Uterine drainage in puerperal infection is doubly imperative, Nature having established the precedent in normal cases to eliminate effete material, which process is often checked by the infection. At this time the parts are in such condition as to form a hotbed for germ development and their rapid absorption.

To my mind a more ideal condition demanding efficient drainage could not be found. I am fully convinced that a fair and impartial trial of combined tubular and capillary drainage in these cases will convince the most skeptical and prove its utility.

Vaginal drainage is a life-saving proceedure under two conditions: First, where we have pus accumulation in the pelvis, threatening life of patient, that cannot be safely removed by abdominal section. Second, in cases of infection where the inflammatory process continues to spread in spite of uterine drainage and other remedies referred to in this paper.

With hysterectomy in septic infection after labor, I have had no experience, as I have not had occasion to resort to such a measure since learning how to use uterine drainage efficiently.

To illustrate some points in this paper, I report briefly a few cases that have occurred in the last six months.

Case I.—Mrs. L., primipara; husband had gonorrhœa before marriage. Patient had a vaginitis and cervicitis, which was relieved by local treatment. At fourth month of pregnancy removed by continuous strip a lot of warty growths, surrounding posterior three-fourths of vaginal outlet. Labor normal, no lacerations. Twelve days after labor had slight elevation pulse. Headache, temperature 99° F. Next day slightly increased; third day, had two chills; temperature nearly 105° F.

Found uterus large, containing a half pint or more of pus; irrigated, inserted double uterine drainage, and gave the usual remedies. Drainage-tube collapsed and bent at cervix, obstructing drainage; hence, but little improvement first twenty-four hours. After that, a rapid improvement, reaching a normal temperature in a few days. Patient recovered, with pelvic organs normal.

Case II.—Mrs. H., aged 22, primipara. Called to see her September 2d, then seven and one-half months pregnant, suffering with acute articular rheumatism, involving all four of extremities; pulse, 115 to 120; temperature, 102° to 103° F. Labor occurred second day afterward,

normal in character, no lacerations. Temperature day of labor ranged from 99° to 100° F.; after that, gradually increased each day, reaching above 106° F., about six days after labor developing a severe rash over body, very red and angry looking, cuticle soon pealing off in large flakes. Patient had scarlet fever when a child. Large doses of anti-rheumatics, quinine, etc., had no influence on temperature. Womb was investigated, found large, flabby, seven or eight inches deep, bleeding easily; on irrigating, flakes of endometrium slipped off, leaving raw surfaces, which were soon covered with diphtheritic deposits. Double drainage used, anti-rheumatics and quinine continued. Temperature reduced by cold wet pack. Second day heart failure followed cold applications, which was controlled by hypodermics of strychnia, nitro-glycerine, and digitalline. After this the hot pack was used, acted well, increasing elimination. Patient was also put on rubber cushion filled with tepid water, cushion reaching whole length of spine. Uterine drainage kept up until temperature was normal. Had considerable inflammatory deposits in pelvis, but patient recovered, with pelvic organs normal, a slight difficulty with joints yet remaining.

Case III.—Mrs. L., aged 21 years, primipara. Miscarriage at about four or five months, two physicians in charge tried to empty uterus with instruments, causing great pain. Some four or five days afterwards a third physician took charge and called the writer in consultation. Found patient in a marked septic condition, temperature 103° to 104° F., pulse 120 to 140, abdomen distended, tender, tympanitic, with abundant pelvic exudate, uterine wall and cervix sloughing. Removed some débris from uterine cavity with forceps, not curette, irrigated and instituted double drainage, giving usual remedies. Patient's general condition improved. Uterus rapidly assumed a healthier condition, practically normal in a week. At this time vaginal incision was made and abscess cavity drained. Patient made good reeovcry, is stout and hearty, only complains of some pain at menstrual periods.

LEFT LUMBAR NEPHRO-FIXATION AND ABDOMINAL MYOMECTOMY IN ONE SITTING, WITH REPORT OF CASE.*

By Andrew J. Downes, A.M., M.D., Philadelphia, Pa.
Gynæcologist to St. Mary's Hospital, Philadelphia.

The patient, Mrs. B., aged 39 years, came under my care in February, 1898, and the following month I operated on her, doing a curettement, trachelorrhaphy, anterior colporrhaphy, and an Emmet perinorrhaphy. A year after, in the spring of 1899, she began to suffer for the first time with pain in the left lumbar region. The pain was soon constantly present, often dull, at times very acute, shooting around into the upper left quadrant of the abdomen and down apparently along the course of the ureter into the bladder. It seemed worse at night while she was in bed. At times very severe exacerbations of pain and distress in the left lumbar region seemed to abate with unusually free urination. Vomiting and irritable stomach were pronounced features, and for a brief period associated with scanty menstruation, suggested a diagnosis of pregnancy. Extreme nervousness and palpitation of the heart were pronounced symptoms, as was also the greatly increased daily amount of urine, of a low specific gravity and light color.

For five years this patient had had the sensation of intermittent swelling and enlargement in the right pelvic region, especially at her menstrual periods, and with the menstrual flow came a profuse, viscid, mucoid discharge, which she describes as like the white of an egg. The sensation of swelling would occur before and during the menses, and abate with the appearance of this discharge. Sometimes the swelling would seem to grow greater for three or four months, during which time there would be very scanty menstruation and little or no discharge of mucoid material. After such periods a profuse discharge would occur and the pelvic distention abate. The symptoms in the right pelvis were the only ones not relieved by the operations of March, 1898. At that time, before the operation, the uterus was enlarged, sensitive, retroverted, but mobile. In the right ovarian region there was found some enlargements, which I did not specifically diagnose. An exam-

* Read before the Philadelphia Obstetrical Society, December 6, 1900.

ination in May, 1900, under chloroform, rendered necessary by abdominal adiposity, revealed a mobile left kidney and an enlargement in the right ovarian region about the size of an egg. Without an anæsthetic the uterus had previously been found very sensitive and retroverted. The individual kidney urine was obtained by my separate urines siphon, and a greater flow of urine demonstrated from the left side.

Fixation of the left kidney by lumbar incision and abdominal section, to relieve the condition in the right pelvis, was advised.

Operation April 3, 1900. Left lumbar incision, kidney found below its normal level, and very mobile. Seen, even through its fatty capsule, it was intensely blue and cyanotic. It was freed from this outer capsule, to which it was quite adherent, brought out of the incision and rapidly became a natural kidney color. The adipose capsule was entirely freed from the kidney to where the blood-vessels enter its hilum and then pushed within the incision to rest underneath the kidney. The capsule propia was incised along the whole length of the dorsum of the kidney and turned back so as to expose fully one-half of the kidney proper. Two strips of gauze, each two inches wide, were used to suspend the kidney in the incision, one surrounding each pole, the two strips meeting diagonally over its median dorsal surface. One suture through the middle of the incision and the suspending gauze prevented recession of the kidney, and maintained it against the muscular opening, to which it was destined to adhere by its granulating surface. The ends of the incision were closed and the wound dressed.

The patient was now placed in the dorsal position and the abdomen opened. The retroverted uterus was brought up to the incision. A small, spherical fibroid half an inch in diameter was found on the posterior surface of the fundus and a larger one, three-fourths of an inch in diameter at the right cornu, imbedded in the uterine muscle, and extending somewhat beyond the uterine line into the tube; and beyond this point, was a large, clear, fairly thin-walled hydrosalpinx, surrounding near its fimbriated extremity an adherent cystic ovary. The fibroids were removed and the small incisions sutured. The tube and ovary were exsected, the uterus attached in slight anteversion to the muscular layer by a kangaroo tendon, and the abdomen closed.

The gauze suspending the kidney was removed on the eighth day, when the back of the kidney could be seen closely set in the muscular slit prepared for it. The method of applying the gauze used in this and two other cases in the last fifteen months is unusual and insures, if these three cases are indicative, fixation of the kidney. The method is as follows:

A two-inch strip of gauze is placed around one pole, say the lower, but so that very little of the under surface of the kidney is in contact with it and the strip carried diagonally up across the kidney. A similar piece of gauze is attached in the same manner around the upper pole and the strip carried diagonally downwards. The two strips of gauze meet, with their four ends, over the middle of the kidney. A large triangular space on each side of the kidney, around and above the hilum, is not covered by gauze; this surface unites to the muscular layer even before the removal of the suspending gauze. At a point in the incision, on a line with the center of the back of the kidney and where the gauzes meet, a suture of silkworm gut is taken down and into the outer muscular layer, through the gauze close to the kidney, and out through the other side of the incision. This suture, when tied, fixes the gauze to the kidney like a cap and prevents any recession whatever and insures contact of the uncovered portion of the kidney



View looking down from Posterior Side.

to the muscular slit it is suspended against. In removing the gauze on the eighth day the double piece is grasped near the pole by forceps and each is removed as a whole from around the ends of the kidney without disturbing the bed it is resting in or the adhesions already formed between the muscles and that part of the kidney which had not been covered by gauze. By this method when the gauze is removed nearly the whole of the posterior surface of the kidney can be felt and partly seen. On subsequent dressings, as long as a finger can enter the incision, the kidney is found, its outer surface level with the outer muscular layer and, therefore, the body of the kidney from pole to pole adherent to the split in the muscles prepared for its reception. The kidneys I have fixed by this method remain as placed, with relief to the complexus of symptoms.

The condition found through the abdominal incision in this case is

worthy of notice. Prior to operation I had paid too little attention to the patient's description of the mucoid material and her feeling of intermittent distention in the right pelvis. A diagnosis of tumor had been made by a former attendant. Whenever I examined the patient I found no evidence of a growth larger than that discovered at the operation, but I never examined her when her side was what she considered distended.

The operative findings are extremely interesting and account, in my judgment, for the opinion that the cystic condition of the right tube did intermittently increase in size by retention and decrease when the tension was sufficient to lift the cornual growth and relieve the pressure at the uterine end of the tube. The specimen of the tube and ovary shows little the condition found at the operation.

The tube collapsed on section. The material formalin and alcohol has further shrunk it. The drawing made by Dr. Carey, assisting at the operation, is very close to a life representation. The cornual fibroid must have acted not exactly as a ball valve, yet with the same effect. It obstructed the uterine end of the tube, the liquid contents of which gradually increased, giving the feeling of distention and in reality distending the tube until, with the increased distention due to menstruation, the tension became sufficient for the contents to break by the barrier and the mucoid discharge appeared with the menstrual flow and the feeling of distension and pain abated. The patient was left after the operation with a healthy left ovary, a uterus in its proper position, not sensitive and without discharge. Her kidney is fixed. She has no abdominal or renal symptoms.

PROCTORRHAPHY: THE SUSPENSION OF THE RECTUM FOR THE CURE OF INTRACTABLE PROLAPSE AND INVERSION OF THAT ORGAN.*

By Charles P. Noble, M.D., Philadelphia, Pa.
Surgeon-in-Chief, Kensington Hospital for Women, Philadelphia.

Marked prolapse and inversion of the rectum in adults is a condition which is well known for its intractable nature and for the difficulty of effecting a cure. It is not my purpose to discuss the ætiology of the condition nor the treatment of the recent and more simple cases, which can often be cured by the removal of the cause, and careful attention to the regulation of the bowel movements. I desire to advocate a simple method of operation which promises well in the treatment of intractable cases, and to report two cases in which this operation has been performed.

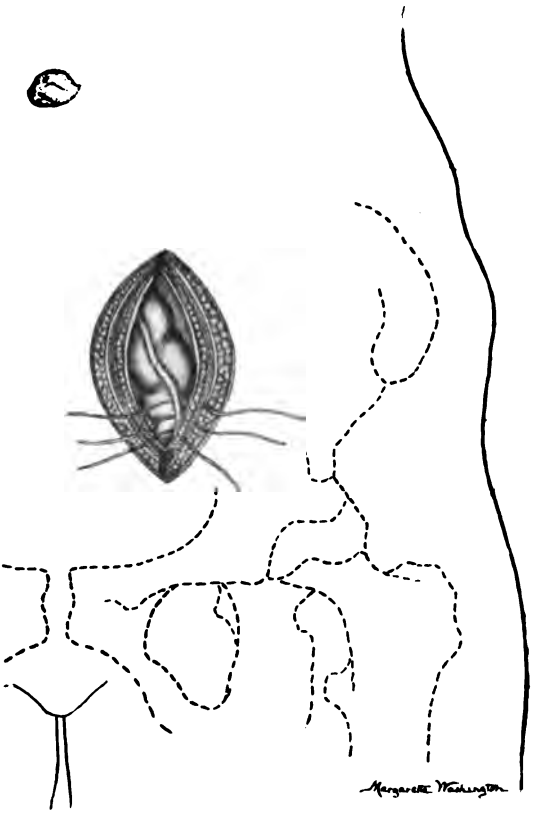
The good results which have been secured in the treatment of prolapse of the uterus by combining hysterorrhaphy with proper operations upon the pelvic floor, and the similar results which have been secured by fixation operations in prolapse of the kidneys and even in prolapse of the stomach, suggest that the same principle should apply to prolapse and inversion of the rectum. The operation which I would propose is to open the peritonæal cavity by an incision made through the left rectus muscle slightly below the promontory of the sacrum, to search for the sigmoid or for the rectum and to make traction upon it until it is inverted and until "the slack" has been taken up. The point at which the lower portion of the rectum will come in contact with the abdominal wall on slight tension should be determined, and this point attached to the abdominal wall by three or more fine silk sutures. The sutures should be passed so as to include a portion of the rectus muscle, and should pass under the anterior longitudinal band of the rectum. In this way the bowel can be firmly attached to the abdominal wall with the least danger of penetrating its lumen and with the greatest prospect of permanent attachment. The abdominal wall should then be closed by the tier method.

* Read before the Philadelphia Obstetrical Society, December 6, 1900.

The accompanying illustration demonstrates very clearly the method of operation.

The history of the two cases is as follows:

Mrs. I., age thirty-five, primipara, consulted me March 21, 1899. She complained of backache and a feeling of discomfort about the rectum, which she attributed to piles. She stated that she had had



Proctorrhaphy.

piles for about five years and that these came down and gave her a great deal of annoyance. The general examination threw no light upon the local trouble. Her health was otherwise good. Her bowels were obstinately constipated. On examination the supposed piles proved to be the inverted rectum. Because of the unsatisfactory results which are usually obtained from the various direct operations upon the protruded bowel, I determined to perform a proctorrhaphy, which was done two days later. She made a prompt recovery, and was

discharged from the hospital March 25th. Her physician has told me within a month that the operation has effected a permanent cure. She is perfectly well, with the exception that there is some tendency to constipation, for which it is necessary to administer a laxative.

Miss D., age nineteen, consulted me March 13, 1900, complaining of a sense of weight or bearing down about the rectum and intense backache. During each bowel movement there is an inversion of the rectum. For some time she has had but little control over her sphincter muscle. The present trouble began three years ago, after an attack of constipation, for which she took a powerful cathartic. Her bowels are constipated, but otherwise there is nothing in the history bearing upon the local trouble. Upon examination the sphincter was found in a paretic condition. In the Sims' position or in the knee-elbow position it dilated under atmospheric pressure, so that the rectum filled with air. Examination with the proctoscope showed a relaxed rectum, which was otherwise normal. On April 16th proctorrhaphy was performed. The patient made a good recovery and was discharged about five weeks after the operation. She consulted me in November, seven months after the operation, and reported that she had no trouble with her rectum until within a few weeks, since which time there has been some tendency to eversion of the bowel at stool. She is still constipated and has not taken her laxatives regularly. On examination the anus was found in normal condition, the bowel *in situ,* and, so far as an examination could show, the operation was entirely successful. As against this we have the statement of the patient that there is a tendency to recurrence of the old trouble. It is my judgment that reasonable care in the administration of laxatives and the use of enæmata, so as to avoid constipation and straining, will be sufficient to effect a permanent cure.

When I operated upon the first case, March 23, 1899, I was under the impression that the operation was original with myself. I have since learned that it has been done by Dr. W. Joseph Hearn of Philadelphia, in one case with a good result. Probably the first surgeon to perform this operation was McLeod of Calcutta (B. K. McLeod, F.R.C.S.E., "A New Operation for Prolapse of the Rectum," *Lancet,* Vol. II., p. 117, 1890). The technique which he employed, however, would not be likely to appeal to most surgeons. He introduced his hand into the rectum, reduced the inversion, put the rectum on the stretch from below upward, and pressed the rectum against the abdominal wall, endeavoring to press the small bowels to one side so that the rectall wall would come in contact with the abdominal wall.

Two acu-pressure pins were introduced through the abdominal wall and through the rectum, penetrating its lumen, so as to fasten the rectum to the abdominal wall. These pins were separated by an interval of three inches, and they were so introduced that the rectum was made to take the course of running from below upward and from within outward. Having fixed the rectum to the abdominal wall, an incision was made between the pins down to but not through the parietal peritonæum. The hand was again introduced into the bowel as a guide, and fine sutures were introduced through the abdominal wall and through the wall of the bowel, avoiding its mucous membrane, and then out through the opposite side of the wound. In this way the rectal wall was attached to the abdominal wall. The acu-pressure pins were removed after twenty-four hours. The patient made a fairly smooth recovery, the wound healing by first intention. The result was a cure.

The simplicity of the operation of proctorrhaphy and its comparative freedom from danger, together with the good results which have been secured so far as reported, commend it strongly, and I believe it well worthy of a trial in the treatment of this intractable condition. It is my own intention in future cases, should this operation fail, to cut down upon the rectum by a posterior incision from the border of the sphincter to the coccyx or to the sacrum, and then to dissect the rectum loose from its connective-tissue bed to a considerable extent laterally and pack the wound with gauze, allowing it to heal by granulation and cicatrization. It seems to me that with this procedure supplemental to proctorrhaphy, and the possible use of the cautery to make linear cauterization of the mucous membrane itself, we should be able to cure prolapse of the rectum without resorting to the more radical procedure of excising the prolapsed mass, as practiced by Treves and others.

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EDITORIAL.

THE SUBSCRIBER AND MEDICAL JOURNALISM.

We have had occasion several times to call the attention of many of our subscribers to the fact that subscriptions to a large amount have not been paid and are long overdue. That this reiteration of an old story is a disagreeable task to us our readers may well believe; they must also realize the fact that it is impossible to conduct any business altogether on credit.

THE AMERICAN GYNÆCOLOGICAL AND OBSTETRICAL JOURNAL was founded and has hitherto been published for the sake of improving the status, financially and in a corporate sense, of the medical profession. It has labored incessantly to this end because it recognized the fact that in the Medical Press, if it be supported and controlled wholly by medical men, the medical profession would possess the most powerful means to its own advancement and prosperity.

It is hopeless, however, to labor in the interests of any class of men if the latter persistently refuse their recognition and support of such efforts, except by words. This is what the medical subscriber does when he subscribes to the medical press and neglects to pay his subscription month after month. It is a scandal and living reproach to

the medical profession that it does not support its press but is willing to throw the entire financial burden of this support upon those members of its own ilk who are unselfishly devoting their time and efforts in its behalf.

This apathy of the medical subscriber is not felt peculiarly by this JOURNAL but exists in reference to the entire medical press of this country and, we may add, it exists in this country alone. The responsibility for this condition of things lies wholly at the doors of the lay publishing firms which until recent years entirely controlled medical journalism. A determined effort was at last made to break this dependence of the profession upon lay publishers and to give it the control of its own. THE AMERICAN GYNÆCOLOGICAL AND OBSTETRICAL JOURNAL was the pioneer in this work and the numerous medical journals under medical proprietorship which now exist have followed the example which we originally set.

For our part we have been forced at last to the conclusion, after nine years of hope in the final intelligent awakening of the profession to the trend of its own interests and to its obligations, that medical men have made no concerted movement to correspond with the efforts we have described but have remained supine. Those subscribers who have promptly paid their subscriptions are, we fear, those who would and do fulfill in a like manner all their obligations of whatever character.

If this indifference continues but one result is possible. Medical men who have thus labored with faith in the ultimate sense of justice and fellowship of their profession will no longer struggle in an ungrateful and hopeless cause but will withdraw from the contest and leave the profession and its press in the hands of lay publishing houses to use again, as they formerly did, for their own exploitation.

The lay publishing houses of medical literature which formerly controlled all and still control some of the most prominent medical journals regard with indifference the credit system which prevails in the matter of medical subscriptions. More than this, they have always encouraged this system because, while it exists generally, a medical press which shall be under the control of medical men and therefore a free and powerful organ in the interests of the profession is an impossibility. The lay publishing houses are supported on lay capital and their sale of medical books pay for the deficiency in their subscriptions while their medical journals in turn, through the advertisement of their medical books and other merchandise, equalize this deficiency. But medical proprietors of medical journals are not merchants, have no capital to depend upon and have no merchandise to exploit. Their sole

capital is their enthusiasm for their profession, their brains and the subscriptions which medical subscribers have contracted to pay.

Consider and realize one thing: No medical man can reap a profitable income from any medical journal of which he is the proprietor and, if his subscribers do not pay promptly and in advance, such medical journal must be supported from his own private income or must fail.

And yet, though this truth might reasonably occur to the mind of every one without the telling, we find that probably two-thirds of the medical readers of this country subscribe to journals owned by the lay publishing houses in preference to those owned by medical men and in spite of the protest of the latter that such subscribers are thus doing their best to crush out an independent medical press.

Do these men plead that they get more of worth for their money by supporting lay proprietorship of journals? If this were true, which is not altogether the case, is it not the subscribers themselves who make it so? If short-sighted sordidness and individual selfishness are always to plead against every attempted improvement in the interests of the profession as a whole, *our* cause is prejudged and hopeless.

Had the profession shown concerted effort to encourage, by its financial support, the struggle of medical proprietors to free the medical press from the thraldom of the lay publishing houses and certain drug concerns, these medical proprietors would have coalesced and formed themselves into a syndicate so that they might, harmoniously and to the best effect, have represented the true interests of their profession. Preliminary plans to thus effect a united medical press were actually formed by several of the more prominent proprietors of medical journals but these efforts were at once blocked, and have remained so, owing to the obstinate indifference of medical subscribers to their financial obligations.

Do you think that medical subscribers generally pay their subscriptions? Ponder this: A medical journal recently put on the market under forced sale had a list of thirty-five thousand dollars of unpaid subscriptions; another prominent medical journal has to-day, it is said, a list of over twenty thousand dollars in unpaid subscriptions; still another, also prominent, has a list of fifteen thousand dollars owed by its subscribers; and this is, we venture to say, a type of the business solidarity of the entire medical press of this country!

What a shameful thing it is that a journal is obliged to put its unpaid subscriptions in the hands of attorneys to enforce the collection of just obligations, legally contracted for by medical men! Yet this is done by

every medical journal to the extent of thousands of dollars each year for unpaid subscriptions that sometimes extend over three, four, five and six years. Were this means to enforce payment not taken the medical press of this country would cease to exist.

Will nothing arouse the better element among medical men—those who have a realizing sense of the *honor and honesty* of their profession—to take action together and form public opinion which will destroy forever the prevailing tendency of medical men to evade money obligations thus voluntarily assumed?

Medical journals in Europe are sent to subscribers only after they have been paid for. All popular lay journals of this country are conducted on the same basis. It is only the profession in America, to its shame be it said, which expects and implicitly demands that its press shall be conducted on eleemosynary principles.

THE AMERICAN GYNÆCOLOGICAL AND OBSTETRICAL JOURNAL, at any rate, does not propose to continue its publication as a charitable foundation for the medical profession. When it is evident that its subscribers, though anxious to read it and to praise it, are not willing to pay for it, it will suspend publication.

"BREAD UPON THE WATERS."

"When 'Omer smote 'is bloomin' lyre,
He 'd 'eard men sing by land an' sea;
An' what he thought 'e might require,
'E went an' took—the same as me!

.

"They knew 'e stole; 'e knew they knowed.
They didn't tell, nor make a fuss,
But winked at 'Omer down the road,
An' 'e winked back—the same as us!"

—KIPLING.

Interested readers will find on another page a review of the three first departments of the September issue of *Progressive Medicine.* The fourth section—that on Obstetrics—is so good (for reasons that will appear) that we have transferred our cognizance of it to the less cramped confines of the editorial page, in order that we may review it *con amore.* Upon cursory examination we were pleased to note that

the compiler had used the AMERICAN GYNÆCOLOGICAL AND OBSTETRICAL JOURNAL'S abstract of Hirsch's paper in the *Medical Record;* this was properly credited to us and to the latter journal. Further investigation, however, revealed an abstract of Zangemeister's article in the *Centralblatt für Gynäcologie* upon "Perforation," which seemed to have a certain air of familiarity; the reason for which was apparent when the writer consulted his own abstract, published some time ago in this JOURNAL, of the original German article. The writer has never considered his knowledge of German above the average and felt correspondingly complimented to find that the compiler had thought so well of the abstract as to copy it entire (with the change of two words and the addition of a syntactical error) without imputing the slightest blame to the AMERICAN GYNÆCOLOGICAL AND OBSTETRICAL JOURNAL Upon the whole, then, this section of Obstetrics seemed worthy of study; and our delight and wonder may be imagined, as we continued to read and as, one by one, the purloined denizens of our once happy literary chicken-yard fluttered home to roost. We append a list of the abstracts which have been used, without credit, from our departments, with notes as to the manner in which they compare, and page references to both publications:

"Parturition among the Eskimos," p. 307 of *Progressive Medicine,* verbatim from the AMERICAN GYNÆCOLOGICAL AND OBSTETRICAL JOURNAL for March, 1900, p. 281.

"Heart Disease from an Obstetrical Point of View," p. 320; sentences very slightly transposed; from January, 1900, p. 89.

"Nursing in the Lying-in Period," p. 322, verbatim from May, 1900, p. 494.

"Maternal Impressions," p. 323, verbatim from February, 1900, p. 170.

"Four Cases on Infantile Monstrosities in the Same Family," p. 324, verbatim from October, 1899, p. 386.

"Malaria and Pregnancy," p. 324, verbatim from July, 1899, p. 98.

" Hernia of the Pregnant Uterus," p. 326, verbatim from December, 1899, p. 565.

"Right-sided Paralysis of Gradual Onset, occurring during Pregnancy," p. 326, verbatim from December, 1899, p. 569.

"Affections of the Kidney in Relation to Pregnancy," p. 330, verbatim except one word, from July, 1900, p. 90.

"Adherent Placenta," p. 335, verbatim, with the omission of one line, evidently a typographical error, from September, 1899, p. 267.

"Post-partum Hæmorrhage in an Opium Habitué," p. 339, verbatim from July, 1899, p. 96.

"Antenatal and Intranatal Factors in Neonatal Pathology," p. 351, verbatim from February, 1900, p. 171.

Resuscitation of apparently Dead New-born by Laborde's Method," p. 356, verbatim from December, 1899, p. 570.

"Shortness of the Umbilical Cord as a Cause of Dystocia," p. 363, verbatim from December, 1899, p. 566.

" Perforation," p. 371, verbatim except for the change of two words, from December, 1899, p. 371.

"Prophylaxis in Obstetrics and Gynæcology," p. 383, verbatim from July, 1900, p. 85.

"Consecutive Ectopic Gestation," p. 389, two articles verbatim from July, 1900, p. 89.

Thus, aside from the abstract credited to us, some nineteen others have been (we think we may use the phrase) "lifted" from our columns; so that the present volume of *Progressive Medicine* is indebted to us for something over one-quarter of the ninety-two pages that it devotes to Obstetrics. It will thus be seen that those who are so fortunate as to have been subscribers to the AMERICAN GYNÆCOLOGICAL AND OBSTETRICAL JOURNAL during the past year or so may save considerable time when they reach this compilation.

If we have sometimes felt, however carefully we have compiled our abstract pages, that they might fail in value or interest, if in moments of depression we have wondered whether busy physicians paused to read such things, our doubts are set forever at rest. At least these pages have been read once by one busy physician, to the end that he was less busy than would have been the case had he not hit upon this time-saving device; and a second time by ourselves, with that joyous sense of familiarity that steals over one who revisits old places and treads once more the half-forgotten paths of other days. How many more readings by how many men the future may hold for these medico-literary step-children of ours, now that they have been adopted, only the future can tell. We rest content—we have done what we could; we feel that though our name adorns not the list of contributors we are virtually one-quarter IT. We have cast our bread upon the waters and it has returned to us after really not so very many days.

A. D. C.

IN MEMORIAM:

Doctor Horace Tracy Hanks.

The subject of this sketch was born on June 27, 1837, at East Randolph, Vermont. On his mother's side he was descended from Cyrus Tracy, an Assistant Surgeon in the Revolutionary Army.

Doctor Hanks received his early education at academies in his native State and later acted as tutor and as teacher in several of these academies and in the public schools of his native town. At the age of twenty-two he began the study of medicine at Burlington, Vt., under preceptors and later attended lectures at the University of Vermont. Finally he graduated at Albany Medical College in January, 1861.

After receiving his degree he served one year as House Surgeon in the Albany City Hospital and then received a commission as Assistant Surgeon of the Thirtieth Regiment, N. Y. S. V. On his return to civil life Doctor Hanks began the practice of medicine in Royalston, Mass., where he was appointed Superintendent of Public Schools from 1865 to 1868. From 1868 to 1870 he attended lectures at the College of Physicians and Surgeons in New York and thus became identified with the city wherein all his subsequent work was performed.

In 1872 he was appointed Gynæcologist to the Demilt Dispensary and Assistant Surgeon to the Woman's Hospital in 1875. In 1878 he was appointed lecturer on Obstetrics in Dartmouth Medical College; in 1885 he became professor of Diseases of Women in the New York Post-Graduate Medical School and Hospital and in 1889 he succeeded the late Doctor Charles Carroll Lee as Attending Surgeon to the Woman's Hospital in the State of New York.

Among the other offices and honors which he held was the Vice-Presidency for three years of the New York Academy of Medicine; Presidency for two years of the New York Obstetrical Society and membership in the New York County Medical Society, the New York Society of Medical Jurisprudence and State Medicine, the Medical Society of the State of New York, the Americal Medical Association, the American Gynæcological Society, the British Gynæcological Society, the Republican Club, the Quill Club, the City Vigilance Club and the Baptist Social Union, of which he was President. In 1898 he received the degree of LL.D. from the University of Rochester, N. Y.

The following is a list of Doctor Hanks' contributions to medical literature:

"Case of Empyema in a Child; Operation and Recovery."—*American Journal of Obstetrics,* November, 1870.

" Case of Ovarian Cyst treated by Injection of Iodine."—*American Journal of Obstetrics,* May, 1873.

" Treatment of Uterine Hæmorrhages."—*American Medical Journal of Obstetrics,* June, 1876.

"A Contribution to the Study of Dysmenorrhœa when occasioned by Anteflexion of the Uterus, or Cervix, with a Tabulated Report of 37 Cases treated."—*Translations N. Y. State Medical Society,* 1877.

" Diseases of Women."—*N. Y. Medical Journal,* September, 1877.

" A Case of Suppurative Peritonitis following Pelvic Peritonitis." —*Medical Record,* December, 1879.

" Operations Necessary for restoring Complete Lacerations of the Female Perineum through the Sphincter Ani, and the Subsequent Management without constipating the Bowels."—*Medical Record,* July 1, 1882.

"Remarks on Peri-Uterine Cellulitis and Peri-Uterine Peritonitis." —*Albany Medical Annals,* 1885.

(President's address before the Alumni Association of the Albany Medical College, March 4, 1885.)

" Pregnancy complicated by Uterine Tumors."—*American Journal of Obstetrics,* March, 1888.

"On the Early Diagnosis of Ectopic Pregnancy and the Best Method of Treatment."—*American Gynæcological Transactions,* 1888.

" My Recent Experience in operating for the Laceration of the Perineum involving the Sphincter Ani, with a Description of My Method of Flap-splitting."—*American Gynæcological Transactions,* 1890.

"A Plea for the Primary Operation in Laceration of the Perineum." —*The Post-Graduate,* October, 1888.

"The Diagnosis and Treatment of Intestinal Obstructions, and the Management of greatly distended Intestines during Laparotomy."— *American Journal of Obstetrics,* Vol. XXIV., No. 4, 1891.

"The Importance of Understanding the Function of the Levator Ani Muscle in the Treatment of Injuries of the Floor of the Vagina."— *Transactions N. Y. State Medical Society,* 1891.

" Rules to be Followed in the Effort to prevent Mural Abscesses, Abdominal Sinuses and Ventral Herniæ after Laparotomy."—*American Gynæcological Translations,* 1892.

" Secondary Hemorrhage after Ovariotomy. Can We prevent it? —*American Gynæcological Transactions,* 1892.

"The Prevention and Management of Pelvic Inflammation in Puerperal Women."—*American Medico Surgical Bulletin,* May, 1893.

" Counter-Drainage after Cœliotomy."—*The Post-Graduate,* No. 4, 1893.

" Total Extirpation of the Uterus and Appendages for Disease of those Organs."—*American Gynæcological Transactions,* 1894.

"Amenorrhœa."—*The Post-Graduate,* January, 1895.

"A Study of the Pathological Conditions of the Pelvis Which Ought to be Attacked from the Vagina."—AMERICAN GYNÆCOLOGICAL AND OBSTETRICAL JOURNAL, June, 1896.

"Retrodisplacements of the Uterus and Its Appendages: The Cause, Prevention and Cure."—*The Post-Graduate,* February, 1897.

" Fibroid Tumors of the Uterus."—AMERICAN GYNÆCOLOGICAL AND OBSTETRICAL JOURNAL, February, 1898.

" Intravenous Injection of Normal Saline Solution."—AMERICAN GYNÆCOLOGICAL AND OBSTETRICAL JOURNAL, September, 1898.

Among many individual and admirable traits the two most distinctive of the man were an unfailing cheerfulness and kindliness of disposition and an incessant activity. Doctor Hanks was remarkable, in an age in which we are accustomed to see the "economy of time" practiced strenuously on all sides of us, for the untiring energy, both mental and physical, with which he devoted himself to the practice of his profession. Blessed with a magnificent constitution and an immense enthusiasm for his work, he easily outdistanced in energy even the younger men with whom he was associated and even up to within a year of his death.

A few years ago his work was interrupted and his health much shattered by a severe attack of septicæmia but recovering from this he returned to his labors with the old-time energy; finally, six months before his death he entirely collapsed with the symptoms of nervous "breakdown" and retired from practice in the endeavor to recuperate.

Bright's disease, which first manifested itself about this time, began to make rapid progress and in September he finally resigned his Surgeonship at the Woman's Hospital, with which institution he had been connected for twenty-five years. Less than three months later he died, on November 18, 1900.

As physical energy was a distinguishing trait of Doctor Hanks so did his mind and character never stand still. He constantly improved in operative technique and in the scope of his knowledge and of his medical conclusions. As a gynæcologist he was distinguished for great operative dexterity, boldness without rashness and rare good judgment.

He endeared himself to all with whom he came in contact—fellow practitioners and patients alike—by his genial good fellowship, his evident honesty and rectitude of character and it may well be said of him that he spent his life doing his duty.

REVIEWS.

Progressive Medicine, Vol. III., September, 1900. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by HOBART AMORY HARE, M.D., Professor of Therapeutics and Materia Medica in Jefferson Medical College of Philadelphia. 408 pages, with 14 engravings. Lea Brothers & Co., Philadelphia and New York.

The first section of this quarter's issue, written by William Ewart, deals with "Disease of the Thorax and Its Viscera." It appears that the treatment of croupous pneumonia is no less varied than heretofore, and scarcely less satisfactory; this state of affairs, however, seems to be the fault of the disease and not of the observers. There is an interesting article upon the therapeutics of heart disease, also an especially good chapter on "Some Special Therapeutic Agents"—saline infusions, gelatine subcutaneous injections and suprarenal extract. Many other subjects, of course, are briefly treated of, and in particular more attention than usual is given to the details of therapy. The second section, upon skin diseases, is written by Henry W. Stelwagon and opens with an abstract of Eliot's paper on the rôle of pus organisms in skin diseases. Pfahler had found a diplococcus in eight cases of erysipelas that fulfils all Koch's postulates. Eczema receives the usual amount of attention, particularly its therapeutics, and one observes that the war regarding its cause is still waging. There is an interesting chapter upon tuberculosis cutis, with special reference to the Finsen light treatment, the Röntgen-ray method and Holländer's hot-air treatment. As in the preceding section special attention is devoted to therapeutics. The section upon "Diseases of the Nervous System," by William G. Spiller, is almost uniformly extremely interesting. Especially we note the articles upon hemiplegia, brain tumors, with abstracts of Bramwell's paper upon mistakes in diagnosis and Knapp's upon treatment, tabes dorsalis

and paretic dementia, their relationship with each other and with syphilis; Babinski's reflex, "the extension of the toes upon the metatarsus in the plantar reflex in place of the normal flexion," as a sign of lesions of the pyramidal tract; epilepsy and hysteria. Very little space is devoted to spinal anæsthesia, as the present deluge of papers upon this subject is too recent. Also particularly interesting to us is the section on Obstetrics. We cannot say that it is not good nor that it is not well done; but, equally, we are not in a position, with regard to a large fraction of it, to say that it is good or that it is well done, lest our remarks should savor of conceit. Such things as we can say of it, however, will be found upon the editorial page.

A Manual of Obstetrics. By A. F. A. KING, A.M., M.D. Eighth edition. Lea Brothers & Co., Philadelphia, publishers.

A new edition of this valuable work on "Obstetrics" is greeted with pleasure by the medical profession, as well as by students for whose use it is especially designed by the author. The illustrations have always added much to the value of the work as a text-book, and to this edition forty-one engravings, selected from the works of the best American authors, have been added, making in all two hundred and sixty-four. No great changes have been made in the text, except to modify some statements in accordance with the latest teachings on obstetrics. The concluding chapter on the jurisprudence of midwifery is well arranged and covers briefly all the points on which physicians are liable to be questioned in legal procedures.

TRANSACTIONS OF THE PHILADELPHIA OBSTETRICAL SOCIETY.

Stated Meeting, December 6, 1900.

The *President,* JOHN C. DACOSTA, M.D., in the Chair.

Treatment of Inflammatory Diseases of the Uterus by Irrigation.

By FRANK W. TALLEY, M.D.

(See page 510.)

DISCUSSION.

Dr. E. E. MONTGOMERY: I have been much interested in the report and in the method of treatment. The method carries to the affected structures the heat and medication much more effectively than the method ordinarily pursued in the use of vaginal douches, and certainly cannot be provocative of good. I can appreciate what the doctor said regarding the avoidance of irritant colic. We all know that the cases in which the cervical canal is narrow are the cases in which it is very unwise that intra-uterine applications should be made. During the reading of the early part of the paper there occurred to me the thought of the possibility of uterine colic and of the contraction of the uterus, forcing the fluid into the tubes and peritonæal cavity. With an alkaline solution this is not necessarily of any serious gravity. I should hesitate somewhat as to the possibility of danger from a carbolized solution of any strength. As I said before, I am much interested in the report of the case and the method of treatment.

Dr. TALLEY: I would say, in regard to the objection referred to by Dr. Montgomery, that the wires attached to the convex surface of the cannula provide a space through which the irrigating fluid freely returns without causing any intra-uterine pressure. Besides, the uterine ends of the Fallopian tubes are so tiny as to barely admit the passage of the finest probe; unless, therefore, there should be a considerable degree of intra-uterine pressure I doubt whether the fluid would find its way into them. For seven years this line of treatment has been followed

in the Gynæcological Dispensary of the Polyclinic Hospital and also in that of the Pennsylvania Hospital, and during that time, with carefully selected cases, such an accident did not happen. In two cases uterine colic occurred, but in these the uterus was injected with strong solutions of nitrate of silver or with carbolic acid or Churchill's tincture of iodine following the irrigation, and the colic was due to the injection. I would also remark that the comfort experienced by the patient immediately following the irrigation is very gratifying.

The patient who enters the room suffering from dragging pelvic pains and feeling of weight in the pelvis, incident to the engorged uterus, rises from the table, after an irrigation with two or three gallons of hot water, experiencing a sense of lightness and comfort that fully repays the extra trouble the irrigation has caused.

Proctorrhaphy: The Suspension of the Rectum for the Cure of Intractable Prolapse and Inversion of That Organ.

By CHARLES P. NOBLE, M.D.

(See page 521.)

DISCUSSION.

Dr. MONTGOMERY: When I saw the title of Dr. Noble's paper I took the liberty of inviting Dr. Hearn to be present and take part in the discussion, as he has operated in a case of prolapse, the most pronounced probably which has ever been seen.

Dr. W. JOSEPH HEARN: The case to which Dr. Montgomery refers was one of complete prolapse. I had intended to operate in the usual way by excision, and had the patient in the operating room, but before operating I asked her to stand between two chairs and to press down the prolapse to the full extent. To my surprise there was a seven-inch tumor from the body, of eighteen inches in its largest circumference, and conical in shape. We thought that some of the bowels had dropped into this prolapse. We determined to do the operation that has been suggested by McLean. One of the assistants carried his hand into the bowel. His arm went as far as the elbow, and in that position we made a double row of sutures, including all but the mucous membrane of the bowel, using kangaroo tendon. In addition to that, after stitching the bowel fast to the abdominal wall we took out a V-shaped piece of the rectum, because the sphincter had been so much relaxed that it was

powerless. The woman was about forty-five years of age, and was still menstruating. She had a most capacious pelvis. Except for the prolapse she was in perfect health. She had suffered for seventeen years and had managed to support the prolapse by a bandage. Within the last two years the condition had become almost unbearable, and she was compelled to be operated upon. I did the operation in the middle of June. I see her frequently, and she still has great comfort. There is slight relaxation from the sphincter. She never suffered from constipation, but still suffers from a tendency to diarrhœa. There seems to be no cause for the condition except the copious pelvis and the abdominal fat. She did exceedingly well after the operation, the temperature being never more than normal. She was in bed three weeks, and left the house at the end of four weeks. I think that in cases of complete prolapse I could recommend this operation in preference to excision. In this case it would have been impossible to excise because it would have opened the peritonæum in such a way that it never would have closed satisfactorily. I am indebted to Dr. Montgomery in connection with the case for his very kind advice and assistance.

Dr. E. E. MONTGOMERY: The paper opens up a field in surgery which I think is applicable not only to the class of cases to which Dr. Noble has referred—prolapse—but also cases of many patients who suffer from abdominal distension and more or less constipation. Discharge of the contents of the gastro-intestinal tract is obstructed as a result of prolapse of a portion of bowel into Douglas's pouch, particularly of the sigmoid flexure and colon. The fastening up of the bowel suggested will, in many of these cases, serve a useful purpose in relieving the accumulation of gas or the congestion of the intestine itself from the kinking of the bowel. In the class of cases for which it has been suggested the experience of Dr. Hearn, as just related, fully demonstrates the usefulness of the procedure. To have amputated the bowel in this case would have necessitated the excision of the greater portion of the descending colon. The resident physician, who assisted us, had his arm in the rectum up to the elbow. The hand was carried up to just beneath the spleen on the left side, so we had the bowel stitched the whole length of the adbominal cavity, and, as Dr. Hearn has said, with two rows of stitches. It seems to me that no other plan of treatment could be considered so satisfactory. The operation of excision of so large a tract would be attended necessarily with great danger to the patient. The intestine, also, would be subsequently left in a very uncomfortable state.

Dr. C. P. NOBLE: I have only to say in closing that it might be

urged as an objection to the operation that some trouble might arise from the fact that the bowel is made adherent. We have all, as surgeons, recognized that while trouble results from adhesions of the small bowel that the large bowel bears adhesions very well. I have personally never known any trouble from an adherent large bowel.

Left Lumbar Nephro-fixation and Abdominal Myomectomy in One Sitting, with Report of Case.

By Andrew J. Downes, M.D.

(See page 517.)

Discussion.

Dr. C. P. Noble: There are two operations covered by Dr. Downes' report, fixation of the kidney and the abdominal operation. Like most surgeons I am in the habit of doing a number of operations at one sitting, more particularly such operations as for prolapse of the uterus. I have never operated on the kidney and then done an abdominal section. It has always seemed to me that as it is the function of the kidney to maintain life that it is well to limit the operation to that of the kidney alone. The result of Dr. Downes' operation is all that could be asked for, but I am inclined to believe that it is a wise rule to let an operation on the kidney suffice for one day.

As to the method, the principle of packing with gauze is one with which I have had no personal experience. I have fixed the kidney in about fifty cases, always using sutures, and the result has been so good in my hands that I have felt no desire to change the method. In an early number of the *American Medical Association Journal* there will be a report of my own work in this direction, with a report of the final result in all the early cases. I have not been able to see every case, but all the early ones I have either seen or communicated with them or their physicians. I have never had a case in which I have had any reason to believe there has been a recurrence of the mobility of the kidney. The men who advocate the use of gauze as against the sutures allege that the fixation made with sutures is not permanent. This is not in accord with my experience, and until some of my cases turn up loose I shall continue to feel satisfied with the suture method.

The men who advocate the use of gauze allege also that with the use of sutures there is the danger of extravasation of urine, and of calculi in the kidney. Neither of these accidents has occurred in my experience, and it seems to me that with proper medical supervision both of these contingencies must be remote. The sutures are not passed deeply enough through the kidney to go into the urinary canals. I think no case of stone has been reported, although the kidney has been sutured for many years. I think that also is purely a theoretical risk. I have heard that there have been cases of urinary extravasation, but what evidence in support of this there has been I do not know. Another alleged danger of sutures is the destruction of the kidney as the result of urinary extravasation or the result of infection of the kidney. Among the fifty cases upon which I have operated two of the first three suppurated. This was because the cases were drained following the Edebohls method. Since then I have abandoned drainage, and out of fifty there was only one suppuration, a case in which both kidneys were fixed. I think the possibility of suppuration from the suture method is very remote. On the other hand, I think the risk of pyonephritis from the gauze method is very great. By this method the kidney surface is laid bare, that is, the lymphatics of the kidnye are brought into contact with the external wound, and we invite suppuration by leaving the open wound in contact with the skin when we know that all such wounds are invaded by micro-organisms. I think, however, that it is well to wait for a greater length of time in order to compare the dangers of the two methods. On theoretical grounds, however, it seems to me that the chances of danger are greater by the open method.

Dr. MONTGOMERY: I have practiced the operation of renal fixation for some years and have operated in a number of cases in which it was necessary to do abdominal operation and at the same time an operation for the displacement of the uterus. I am not inclined to feel the hesitancy expressed by the last speaker in regard to doing the double operation, for the reason that in none of the cases in which I have operated, doing an abdominal operation and a renal fixation at the same time, has there been any increase of disturbance during convalescence. Where a patient has had to undergo an abdominal operation for some displacement of the uterus or for a diseased condition within the abdominal cavity, and looks forward to later date for having an operation to fix the kidney, she necessarily experiences great nervous anxiety. Many patients will fail to submit to a second operation and would rather suffer from their distress than undergo a subsequent period of discomfort from the operation. Then, too, it is a matter of consider-

able importance as to the expense of time and money required for the two operations. For these reasons I have been in the habit, where it is necessary, of doing two operations at the same time. In one case, which I have mentioned in this Society, I removed a urethral caruncle, amputated the cervix, did perineorrhaphy, a ventro-fixation of the uterus, a fixation of one kidney and the excision of a cyst from the lower part of the other. I would not want to repeat the operation although the patient did recover, and must confess that I had a week of great anxiety, because both kidneys had undergone injury. I did not know before the fixation of one kidney was made that the other kidney, which was floating, contained a cyst which had a calcareous wall. I have had the misfortune in one case to have a discharge of urine for some three weeks following an operation for renal fixation. This was a case in which there was no drainage employed. The patient, two days later, had symptoms of so grave a character that I could not but feel that there was urinary infiltration. I reopened the wound by removal of all the sutures, when there was at once a discharge of urine from the back. This case was one in which the sutures had not been introduced deeply, and yet there had been this discharge of urine from a dilated kidney, which had been dilated, possibly, by an accumulation of urine within its pelvis. The patient has recovered, and has had no distress on that side. The sinus has healed, but it was an unpleasant experience. I am now in the habit of making an incision into the capsule of the kidney, which is turned back and sutured with catgut to the muscle wall without an ysutures entering the kidney structure. This method seems to result in fixation and holding of the kidney in place. I saw during the last summer an exceedingly interesting case, with Dr. Steinback at the Polyclinic Hospital. The woman had, a few days before, had a large cyst of the left kidney emptied by the aspirator. Two gallons of fluid were removed, which demonstrated the fact that the kidney had been out of circulation for some time. There was almost immediately total suppression of urine. This continued for thirty-six hours. The right kidney became enlarged, and the case presenting indications of uræmia, Dr. Steinbach made an incision over the right kidney, and found its pelvis distended with urine, which he emptied by an incision throught the kidney, and attempted to pass a probe down the ureter. A tube was introduced into the pelvis of the kidney, packed about with gauze to control bleeding, and the patient for the next three weeks had all the urine excreted through this wound. At the end of this time the drainage tube was removed and the urine began to pass through the ureter into the bladder. Dr. Steinbach re-

ports the patient entirely recovered and still gaining in health and strength. The case is very interesting in showing what can be done in a patient who has but a single kidney. Certainly the operation done by Dr. Steinbach was one which was an absolute saving of life.

Dr. W. JOSEPH HEARN: Like Dr. Noble, I never use gauze, but always content myself with sutures. I have not had any relapses that I know of. In every case that I have operated on I have made a large, raw surface on the back of the kidney, attached that to the muscle and closed without drainage. I have never had any serious trouble, but I have a kidney case, which I want to show some time, of a woman who came under my care with a large kidney tumor, which I first thought to be ovarian. It contained two quarts of fluid, and upon closer examination it was found to be a kidney. It contained at least a gallon of water. The condition had been going on for years, and the woman did not survive the operation. In fact it was found necessary to transfuse salt solution, but the patient died forty-eight hours afterward. This case was of interest in showing the size of the kidney. The tumor was so large that I did not suspect it to be the kidney. I know that several of my friends use the gauze in case of movable kidney, but I have not had any personal experience.

Dr. DOWNES: I had hoped some one would speak of the symptoms produced by pressure of the tumor. One reason that I did the combined operation was that the patient, when she found that she was suffering from this kidney condition begged that I would not forget that she wanted the abdomen examined and the cause of all her troubles removed.

I reported the use of the gauze especially on account of the method of using it. It goes from pole to pole, meeting at the center, forming a cap. The splitting of the capsule has little or nothing to do with the method; some would prefer to split it, others not; but the gauze sustains it whether split or not.

Official Transactions.

FRANK W. TALLEY, *Secretary.*

ABSTRACTS.

GYNÆCOLOGY.

UNITED STATES.

WHAT IS NORMAL MENSTRUATION?*

BY GEORGE J. ENGELMANN, M.D., BOSTON, MASS.

(*Author's Abstract.*)

What is normal menstruation, or, more correctly, *what is the menstrual condition of the average girl in average health,* is a question which may well be asked. Familiar as we all are, in a general way, with the condition, we have no complete and positive knowledge.

The menstrual period proper is the entire period of disturbed equilibrium, of intensification and depression, though usage has confined the term to the time of depression, of the hæmorrhagic flow, regardless of the preceding period of intensification, and I shall here follow the general custom.

During this time physical endurance, judgment, mental acumen, and capacity are affected, the circulation is disturbed, pulse, temperature, blood pressure, pulmonary capacity, nerve tension, and muscular force fluctuate; such changes are noted with every recurrence of the flow and the oncoming of the function; the advent of puberty is like a tidal wave, with a depression similar in character but more far-reaching, and preceded by an intensification of all vital powers which more deeply influences her entire being.

Hegar, Reinl, Meyer, and De Ott have taught us much, and the classic study of Emmet has clearly traced certain phases of the period in later life, but the knowledge we possess is based upon the revelations of hospital and clinic or consulting-room—it is from the sick; of the healthy we know nothing.

Investigation has not yet revealed the actually existing status in the average girl in good average health, in puberty and adolescence. This I have attempted and here present the facts as culled from the records of nearly 5000 cases, from high and normal school, from col-

*Read before the Southern Surgical and Gynecological Association at Atlanta, November 13, 1900.

lege and department store, girls between 15 and 26, the majority between 18 and 22, in rather better than average health and in numbers sufficient to admit of positive deductions. Whilst as to the details, every case is a law unto itself, these numbers permit me to trace an average and also laws which determine variations from such average, but it is the average of existing conditions only I here present.

Recurrence.—The function is supposed to recur monthly, every 28 days, but this is true of only 31 per cent., the larger number being retarded, 45 per cent. and 24 per cent. recurring in less than 28 days; there is a wide range, between 21 and 42 days, with extremes far beyond these limits, most frequently in a multiple of 7; fully 50 per cent. are irregular—that is, do not recur with regularity to the day—a variation of over 2 days is very common, especially from 26 to 28 and 28 to 30; frequently it is 7 days from 21 to 28, and but rarely over 3 weeks from 21 to 42 days.

This irregularity increases distinctly by at least 10 per cent.; as duties become more stringent, application, mental or physical, more intense; mental exertion shortens the interval, physical strain—if not too great—rather tends to prolong.

The average frequency in one freshman class was 36.75 days; a prolongation due to change of habits, but I have found no average of any larger number below 26.56, and this was in a senior class, with hard study.

Recurrence, like all other phases of this function, is influenced by circumstances and surroundings, by conditions, mental and physical, more especially in the early years when the system is most impressionable; later, the tissues are more resistent, the nervous and mental balance more perfect, so that variations are less frequent and minor disturbances no longer affect the function. I find in a normal school, in one group of students, the average of 27.03 reduced to 26.56 by closer application and more serious work, whilst in another group, in better physical condition, from more exercise and more hours of physical training, the change was decidedly less, and their average nearer normal—28.43 days.

Duration.—The average duration, varying in different groups from 4.4 to 5.5 days is 4.6 days, much the same as that found by Emmet, who notes 4.82 as the average at puberty for those in the best health, who are regular from the first, with a change to 4.66 for the same in after life. The variation is from 2 to 7 days, with very few beyond these extremes, the largest numbers at 4 and 5 days; of 1000 freshmen, 30 per cent.—4 days; 31 per cent.—5; 9 per cent.—6 days; shorter in the

girl at work; 20 per cent.—3; 23.8 per cent.—4; 24.25 per cent.—5; 10 per cent.—6 days; rarely do we find the highest average of a group of girls at study, as in one college group, 40 per cent. from 5 to 7 days.

Suffering varies with different groups between the extremes of 32 per cent. and 95 per cent., more generally from 50 to 80 per cent., averaging 67 per cent.; in this I include moderate pain; from 11 to 18 per cent. suffer severely; as a rule, there is an increase of at least 10 per cent., with increase of mental strain in higher grade schools, but in a few modern, well-managed institutions, where proper attention is given to arrangement of study hours and to physical training, I note decrease of suffering.

The average for school and college is 40 to 70 per cent., for the girl in the department store 83 per cent., differing with kind of work, least among floorwalkers and those who move about, 78 per cent.; clerks and stenographers, sitting, 85 per cent. ; saleswomen, those who stand, 91 per cent.; by the 17th year the largest amount of suffering has developed, increasing, as a rule, with difficulty or strain of work.

Work, mental and physical, is *more trying and more wearisome during the period of depression,* as is admitted by at least 6 per cent. of students and working girls; more so, as work is more severe, more so in younger years; in one college 83 per cent. of a senior class preparing for the first examination find work harder and only 69 per cent. of the junior class admit this: in a normal school,, 69 per cent. of those with but two periods of physical training weekly so state, whilst only 52 per cent. of those who give more time to body development feel the same relaxation; 80 per cent. in the average working girls, varying from 78 per cent. to 91 per cent. according to the kind of work.

The most convincing proof of the impaired condition of the system, the existing lassitude and depression, is presented by the number of those who seek relief from the daily routine of duty, who are excused from work or study during the period of greatest relaxation, at the beginning of the flow.

This is done for two reasons:

1. For the sake of prevention and protection against injury during this period of increased susceptibility.

This has, of recent years, been done to some extent by the advice of physicians here and there, but in some prominent private schools in our large cities the number habitually excused as a precautionary measure is surprisingly large; in one 60 per cent., in another 24 per cent., with 46 per cent. excused at times. This, of course, is in the smaller fashionable school, where urgent necessity for close application does

not exist, though some of the girls are preparing for colleges.

2. Necessity obliges others to rest by reason of their desirability to perform the usual duties, and *30 per. cent. are more or less frequently excused from work or study* on account of debility or suffering during the first day or two of the flow.

This is true of the higher institutions of learning, of normal school and college, as it is of the occupations, with variations determined by intensity and strain of duty, more in higher classes than in lower, more in the trying forms of work, saleswomen and those who stand.

Few are habitually excused, yet always some, and in exceptional cases as high as 17 and 20 per cent.; even nurses, who are supposed to enter upon training in perfect health, show 14 per cent. occasionally excused from recitation and 17 per cent. from the physical duties of their work.

The claims of necessity in the struggle for existence must yield to the lowered vitality of the period.

Résumé.—In brief, the menstrual period proper is characterized by an intensification of all vital energies, followed by a depression, which appears with the coming of the flow, and this latter is the phase ordinarily termed "menstruation"; *under ideal conditions,* and in perfect health the physiological status is such that this epoch, preceded by a day or two of heightened activity, is marked by a moderate lassitude, mental and physical, the flow persisting for from four to five days, and recurring at regular intervals of about 28 days. It is a period of heightened susceptibility, and so sensitive a barometer that it quickly records any variation from the normal; excitement or fatigue, mental or physical, are promptly indicated by variation in this function, and in our everyday life such disturbing elements constantly occur, so that conditions actually existing vary greatly from this ideal.

The average period of the American girl in average health presents very different features: regularity in 50 per cent. only, recurrence every 28 days; in 30 per cent., varying most frequently from 26-42 days, 45 per cent. being over 28; duration varies from 2 to 7 days, averaging 4.6; from 66 to 70 per cent. suffer more or less, the number of sufferers varying according to age and intensity of occupation, between 30 and 90 per cent. Lessened ability for exertion, mental or physical, is admitted by 60 per cent., some few are habitually incapacitated from work and 30 per cent. occasionally.

The functional condition of the girl in good health, under modern conditions of life, is by no means the ideal one and, in fact, the functional health of the American girl, the coming mother of American

men, is far from what it should be by right of inheritance and surroundings. This fact we must recognize, we must face; upon physicians and educators devolves the duty of study and correction of the evil.

208 Beacon Street.

Resection and Anastomosis of the Divided Ureter.

HOWARD A. KELLY (*Jour. of the Amer. Med. Assn., October* 6, 1900) says that the importance of the ureter as an emunctory, and its liability to injury in the course of an abdominal or vaginal operation, render the question as to the best methods of dealing with such accidents important. The injury is usually involuntary on the part of the operator, as when a ureter is cut for a blood-vessel or unwittingly picked up along with the ovarian vessel at the pelvic brim and ligated and divided. Or it may be torn out with an adherent cyst, extra-uterine pregnancy or tubercular mass, or voluntarily sacrificed when it passes through a carcinomatous mass in the broad ligament.

Before contemplating an operation make sure that the ureter is a live or active one. It sometimes happens that the disease which necessitated the operation has so completely occluded the ureter that it is practically dead, and when brought to the surface no secretion escapes from it. When on examination the kidney on the side of the injured ureter is found to be atrophied or sclerotic, there is no need to trouble to do a delicate anastomotic operation.

There are two ways of anastomosing an injured ureter: 1, anastomosis of the ureter into itself—uretero-ureterostomy; and 2, anastomosis into the bladder—uretero-cystostomy. The former is preferable when both ends are accessible, when there is no obstruction between the lower end and the bladder and when the lower end does not have to be sacrificed as in extensive carcinoma. It is best adapted to joining the divided ends in the posterior part of the pelvis. The success depends upon accurate union without injury to the delicate ureteral structures, and their flaccidity and occasional difference in caliber render this difficult. A ureteral guide has been devised by the writer; it resembles a tiny hammer with the handle attached at an angle and flush with one end. The head, or guiding part, is 4 cm. long, cylindrical and rounded at the free end like a cartridge; near the end is a groove in which to tie the ureter to fix it during the anastomosis. Other instruments required are: delicate ureteral tissue forceps, fine scissors, a tiny round curved needle with the eye open at the end and delicate needle forceps. The method is as follows: A

fine silk mattress-suture is passed through the under surfaces of the cut ends and tied, bringing them firmly together. A longitudinal slit large enough to admit the guide is made in the upper part of the ureter 2 cm. from the end. Through this the guide is pushed into the ureter down through its open end and well into the lower end, where it is loosely tied at the groove to hold it in place. The end to end anastomosis is completed by passing five silk sutures, either interrupted or mattress, with the sides close together, at intervals of about one mm., including all coats except the mucosa. The ureter may be rotated by moving the handle of the guide. The string tied around the guide is cut, the guide withdrawn and the operation tested by injecting water through the slit toward the bladder. If there is no leakage at the junction of the ends the slit is closed by three or four fine silk mattress-sutures. The guide is made in three sizes. An extemporaneous guide may be made by whittling a piece of wood into the desired shape, attaching a long thread to one end and sterilizing it. The anastomosis of the ureter into the bladder is performed by making a hole in the top peritonæal surface of the bladder, slipping the guide in and pushing out the right or left vesical cornu toward the divided ureteral end. An opening is made at the nearest point just large enough to admit the ureter. The end of the guide is slipped up into the ureter and tied, and the ureter, with its lower end slit up for half a centimeter is drawn well into the bladder and stitched on all sides to the muscular vesical wall. The guide is removed and the abdomen closed with a small gauze drain in case of leakage. This operation is better when the lower end of the ureter has been destroyed, is obstructed or inaccessible. The details of six operations are appended.

Cocaine Anæsthesia by Lumbar Puncture: Two Cases of Hysterectomy.

J. RIDDLE GOFFE (*The Med. News,* October 13, 1900) reports two cases, one a vaginal, the other an abdominal, hysterectomy, performed under cocaine anæsthesia. In both cases profuse sweating came on about fifteen minutes after the operation, followed by nausea and slight vomiting, and later by a severe headache, lasting about ten hours. The first patient received thirty minims of a two-per-cent. solution of cocaine and was insensible to the prick of a pin in a few minutes. Vaginal hysterectomy was performed, the angiotribe being employed, but no pain was felt. Convalescence was normal. The second case had a kyphotic pelvis, and some difficulty was experienced in entering

the subarachnoid space. One-third of a grain of cocaine was injected, but analgesia was very imperfect and one-third more was injected. The operation lasted forty minutes and recovery from the effects of the cocaine was so speedy that the final steps of the operation gave occasional twinges of pain. So far as the writer can ascertain, this is the first abdominal hysterectomy performed under cocaine anæsthesia.

Acute Senile Endometritis.

L. H. DUNNING (*Jour. of the Amer. Med. As.*, November 3, 1900) says that the histologic study of the endometrium in senile endometritis has been limited to the examination of scrapings, but a more thorough examination has been possible in two cases where the uterus was removed for the above trouble. The first case was a woman of 63, who had enjoyed good health ever since the menopause, which occurred at the age of 40. Six months ago she began to have a seropurulent discharge from the uterus, which finally became bloody and was accompanied by backache, pain in the pelvic region and anæmia. The uterus was small, retroverted but movable. The left tube and ovary were slightly enlarged and very sensitive. The passage of a sound into the uterus was followed by the discharge of a small amount of dark, offensive fluid. The second case was of the same age and gave a history of good health up to a month before examination, when a sanguino-purulent discharge appeared. Hysterectomy was performed in both cases, and there was found to be an acute inflammatory process in each case; the characteristic features in each case were: (1) a thickened endometrium with its free surface devoid of the epithelial layer; (2) increased vascularity with a peculiar arrangement of the small blood vessels; (3) small round celled infiltration; (4) diminished glandular elements; (5) degeneration of the coats of the arteries of the muscular layer of the organ, the degeneration being hyaline in one specimen; (6) no increase in connective tissue.

The mucosa of both the cervix and body was inflamed, but more so in the latter; while the round-celled infiltration extended into the upper muscular tissue. The acute inflammation seems to have developed without preceding chronic trouble. The microscopical appearance bore but slight resemblance to that found in interstitial endometritis. In neither case was there stenosis of the internal os, and yet there was a considerable accumulation of fluid in the uterine cavity. In both cases one uterine appendage was diseased; in one the ovary was cystic, in the other the ovary was cystic, the Fallopian tube in-

flamed and there were slight recent peritonæal adhesions. These conditions would seem to indicate a tendency of the inflammation to extend beyond the limits of the uterus.

A Case of Persistent Sciatica treated by Cœliotomy and Suspension of the Uterus.

J. W. BEAN (*Medical Sentinel*, October, 1900) reports the case of a married woman of thirty-eight, the mother of one child, who for five years had suffered from neuralgic pain in the right leg, which had increased in severity until for the last six months the continuous pain had scarcely permitted a full night's sleep. The pain was more severe during the week preceding the menstrual period and was somewhat alleviated during the flow. As the pain was increased by lying down, she slept sitting in a chair with the affected leg sharply flexed. Menstruation was regular and free from pain. Examination of the leg showed no tenderness on deep pressure over the sciatic notch or along the course of the sciatic nerve. The uterus was sharply retroflexed and adherent, and inclined toward the right. Pressure on the fundus caused intense pain in the right leg. The adhesions were too firm to allow of the replacement of the uterus and cœliotomy was advised. On opening the abdomen the uterus was found to be bound down to the rectum and posterior part of the pelvis. The adhesions were separated and the uterus brought forward and suspended according to Kelly's method. The ovaries and tubes, being perfectly healthy, were not removed. Recovery was uninterrupted and the patient has since been entirely free from sciatic pain, which was evidently caused by the dragging on the nerve by the adhesions and not by pressure, as was shown by the fact that the pain was more severe when the pressure of the intestines was taken off the uterus.

Pressure Therapy in Gynæcology and Obstetrics.

PALMER FINDLEY (*Chicago Medical Recorder*, October, 1900) says that while Freund introduced the so-called "absorption cure" as applied to chronic inflammatory diseases of the pelvis, Joseph Halban, assistant to Schauta's clinic in Vienna, has made some important and helpful modifications of the method of procedure. The writer, while studying under Halban, had the opportunity of following his observations. Freund used a rubber condom filled with shot, introduced into the vagina in direct contact with the exudate, but Halban substitutes

a Braun's colpeurynter filled with quicksilver. This is easier of application and a greater and more evenly applied pressure can be obtained, with no increase of bulk in the vagina. The patient is placed upon her back if the exudate lies behind the uterus; upon the side corresponding to the exudate if the latter is at one side of the uterus. The foot of the bed is raised and pillows placed under the patient's hips. The bladder and rectum must be empty. The colpeurynter is folded, vaseline applied to it, and it is then introduced with dressing-forceps so as to be in contact with the exudate. The colpeurynter is then filled with from 500 to 1000 grams of quicksilver, and a bag of shot weighing from one to three pounds is strapped to the abdomen for counter-pressure. The pressure should be continued for at least an hour, and if well borne it may be kept up throughout the entire day. Where pain is caused a part or all of the quicksilver must be removed, as there is danger of starting up active inflammation, or disseminating an unrecognized virulent infection. The treatment is particularly effective in pelvic cellulitis, where the exudate is in Douglas' cul-de-sac, or in the base of the broad ligament. In perimetric exudates with adhesions high on the fundus of the uterus, the effects of pressure are not as satisfactory. Where the utero sacral ligaments are contracted and involved in a chronic inflammation, giving rise to painful coition, the placing of a colpeurynter filled with quicksilver behind the cervix will relieve the pain by stretching, and so overcoming the contraction of the ligaments. In the replacement of fixed retroverted and retroflexed uteri pressure therapy gives the most satisfactory results. Incarcerated pelvic tumors may be treated by the same method if low in the pelvis. This procedure has also worked well in the treatment of some cases of incarcerated pregnant uteri; Halban says, however, that if replacement is not accomplished after two or three trials of this method it is useless to persevere further. In adhesions of the fundus of the uterus or involving normally located appendages, massage is preferable, although it requires a much longer time to effect equally good results.

A Case of Double Intraligamentous Cyst, with Remarks.

C. JEFF MILLER (*New Orleans Med. and Surg. Jour.*, November, 1900) reports the case of a colored woman, twenty-four years old, who was admitted to the hospital with the following history: She was married, had one child three years old, no miscarriages, menstruation regular until the last three months, when the flow had appeared

at each period but had only continued for one day, and very little at that. There had been some rectal and bladder irritation, and she had suspected pregnancy. When admitted she had a temperature of 102° and pain in the abdomen. Just after admission a profuse bloody vaginal flow came on, lasting for four days, after which the patient felt better. Examination showed an indurated mass in the left broad ligament. Laxatives, hot douches, and the occasional use of an ice-bag over the abdomen relieved her discomforts, the temperature dropped, and she wanted to sit up. On the ninth day after admission she was seized with violent cramping pains in the left iliac fossa, the vaginal flow reappeared, and the temperature rose to 103°. There was much shock. The abdominal walls were rigid and tender. There was a fluctuating mass on the left side reaching nearly to the umbilicus. The rupture of a tubal gestation was suspected. On opening the abdomen dense adhesions were found throughout. Each broad ligament contained a cyst, the one on the left being large and showing acute inflammatory changes. In the left ligament was a fibroid, lying close to the uterus, and small cysts were scattered over the peritonæal surfaces of both broad ligaments. After the adnexa were freed and the ovarian vesels secured, enucleation of the cysts was accomplished after much difficulty. Owing to the excessive hæmorrhage the folds of the broad ligament were packed with gauze after sewing their edges to the parietal peritonæum about the abdominal incision. The uterus was removed and the ends of the broad ligaments drawn into the vagina. Half a gallon of hot saline solution was introduced into the vein of the arm and the use of hot saline enemata was continued for two days. There was considerable shock, but the patient recovered.

The cyst was evidently the growth of months, but gave no sign until the inflammatory changes occurred, possibly the result of infection from the bowels. In many cases where intraligamentary growths are suspected it is best to first secure the uterine artery or arteries through the vaginal vault before opening the abdomen. If cysts of considerable size are found occupying both broad ligaments and intimately connected with surrounding structures, hysterectomy as a routine measure will yield the best results. Where sepsis is present, *e. g.*, badly adherent pus tubes or an infected cyst sac, drainage is of utmost importance and is best obtained per vaginam after removing the uterus unless special reasons exist for retaining that organ. Drainage is oftener indicated than in other pelvic conditions owing to the extensive raw surfaces produced during the enucleation of the growth and the notable tendency of these growths to become infected.

CANADA.

The Operative Treatment of Procidentia Uteri in Elderly Women.

A. LAPTHORN SMITH (*The Canadian Practitioner and Review,* October, 1900) says that in the majority of cases of procidentia uteri in elderly women there will be found an old laceration of the cervix and usually of the perinæum as well. The relaxed condition of the latter prevents the effectual use of any pessary except a cup and stem (which is not without its dangers), or a large ring pessary kept in place by a perinæal bandage which must be removed and replaced at each call of nature. Subinvolution follows upon these original lacerations, then the heavy organ becomes retroverted, and by gravity and intra-abdominal pressure is forced lower in the pelvis, until the cervix appears at the vulva, dragging both bladder and rectum downward with it. Chronic cystitis and backache result, and ulcer and even cancer develop at the site of the scar tissue in the lacerated cervix. The prevailing notion that it is hardly worth while to operate on women of sixty or seventy is responsible for much unnecessary suffering. A few months ago the writer removed the uterus and repaired the perinæum of a woman of seventy-five with hard arteries and *arcus senilis.* She bore the operation well and feels in better health than for twenty years.

Where the uterus is small and not far enough out of the body to have become ulcerated, the safest operation is to make a small incision in the abdomen, and catching the fundus with bullet forceps, draw it up to the incision, scarify its whole anterior surface and sew it to the abdominal wall with buried chromicized catgut. The vaginal outlet is then narrowed by a large anterior and posterior colporrhaphy. If, however, the uterus is very long, and especially if it is badly ulcerated, it is better to amputate all but the upper two inches of it, and then stitch the vagina up to the upper half. Although the writer has removed many prolapsed uteri, yet it is better, in the majority of cases, to perform ventrofixation and amputate the cervix, for the bladder and vagina are drawn up better by ventrofixation than when the uterus is entirely removed. In every case the anterior vaginal wall is narrowed by a Stoltz operation and the posterior wall by a Hegar. It is of great importance to keep these patients in bed long enough for the plastic adhesions to become strong; six weeks usually suffices.

Great Britain.

Treatment of Hæmorrhage by the Subcutaneous Injection of Solution of Gelatin.

G. W. Davis (*The Lancet,* September 8, 1900) reports the use of this method of treatment in three cases with marked success. The gelatin is prepared as follows: A solution was made of 200 grains of sheet gelatin in two pints of distilled water containing 60 grains of "Cerebos" salt. This was clarified with egg albumen, then boiled, filtered through cotton, made up to two pints, boiled again for fifteen minutes, bottled in a sterilized bottle while at boiling heat, thoroughly corked and kept for use. At each injection six ounces of this were injected at a temperature of 103° F. into the cellular tissue of the buttock, with the usual precautions as to asepsis. Only in one instance, Case III., did any inconvenience result; in this case the injection was followed by pain and faintness, there was a slight rise of temperature and the pain continued for several hours. A convenient way of having this remedy on hand is to make a concentrated solution of 200 grains of gelatin to a quarter of a pint of distilled water, adding an ounce of salt, and putting up in half-ounce bottles, each of which when diluted, re-sterilized and filtered makes a five-ounce injection, enough for one dose. The remedy is more or less empirical, but it may be assumed that the hæmorrhage is due to some deficiency in the blood, of some substance essential to coagulation, and that the gelatin, quickly absorbed, presents a foundation or deputy fibrinogen rendering coagulation once again possible. The inducement of coagulation is so positive a property of this treatment that there is a possible danger of thrombosis from too strong an injection or too large a dose.

Case I.—An elderly woman with hæmoptysis apparently attributable to rupture of some atheromatous vessel by violent coughing. The hæmoptysis had been going on for four days in spite of hydrastis, chloride of calcium, ergotinin and ice-bags. After one injection of gelatin the hæmorrhage ceased and did not recur.

Case II.—A multipara, delivered when alone of a full term child and the placenta. When seen a little later the uterus reached three inches above the umbilicus and was filled with fluid blood, and hæmorrhage was still going on. The uterus was emptied and gone over with a flushing curette with water at 115° F. Hypodermics of ergotin and strychnine were given, and a large rent in the perinæum closed with four deep sutures. The uterus contracted, but the bleeding per-

sisted, the woman was exsanguinated and restless and the pulse thready. The gelatin solution could not be obtained for half an hour, during which time she grew worse. After one injection of gelatin the hæmorrhage ceased almost immediately and did not recur.

Case III.—A multipara of 57 years, who had suffered from grave hæmorrhages at each menstrual period due to fungous endometritis caused by the chronic uterine congestion dependent upon prolapse of the uterus of twenty-years' standing. Curetting and packing had been tried with no benefit, and vaginal hysterectomy was advised. She consulted another medical man, who used nitric acid weekly and "cotton styptique" in the intervals. The hæmorrhage became more free than ever, and after continuous bleeding for a month the writer was recalled. Five ounces of a 1.5 per cent. solution of gelatin was injected causing the unpleasant symptoms before described, but the hæmorrhage ceased entirely and had not returned a week later.

Thrombosis in the Veins of the Pelvis and Lower Extremities after Operations.

K. G. LENNANDER (*The Lancet*, September 15, 1900) says that it has been his custom in all cases of abdominal section to raise the foot of the bed from six to twelve inches, maintaining it at this elevation until convalescence is established, when it can be lowered to from four to six inches; this height ought to be kept up in many cases for some months. This raising of the bed makes the flow of blood from the veins in the pelvis and external genitals more rapid than in the horizontal position. In cases of cardiac debility or local venous changes the elevation of the foot of the bed is even more important and should be increased to fifteen inches for the first few days. Cardiac stimulants and subcutaneous saline injections should be administered before and after narcosis in all cases of cardiac weakness. To famished and emaciated patients subcutaneous injections of 5 to 10 per cent. solutions of grape sugar as well as injections of olive oil may be given. From 17 to 35 ounces of the grape sugar solution with from 2 to 3 per cent. of alcohol may be added to normal salt solution and given at intervals in 24 hours. Ten per cent. dextrose solution is apt to cause pain and shows a little sugar in the urine.

Thrombosis is caused by slowing of the blood stream and by local vascular changes. In laparotomy patients there are several conditions leading to slowing of the blood, particularly in the veins of the lower extremities. Many have weak hearts from long illness, and if there

are any varicose veins, especially the saccular form, the blood readily stagnates. Gas in the intestines also increases the intra-abdominal pressure, diminishes the extent of inspiration, lowers the negative intra-thoracic pressure and so lessens all the forces which promote the venous flow from the iliac veins to the right auricle. Previous coagulation in the larger veins of the lower extremity or pelvis is the chief predisposing cause of thrombosis. A thrombus in circulating blood commences from deposits of the blood plates on the vessel walls between which leucocytes are found. This is called "conglutination" by Eberth. If the circulation is slow coagulation may ensue from the fibrin ferment set free from the white blood corpuscles during the act of conglutination. The vessel lumen becomes thus occluded. Distally the coagulation extends to the nearest large branch, and proximally the blood will be clotted if the circulation is slow, so that a thrombus may extend quickly from the foot through the crural to the iliac veins in a patient who at first complains only of pain in the calf. In flowing blood fibrin ferment is quickly destroyed, so in order to prevent the formation or extension of thrombi local stasis must be combated in every possible way. In addition to the elevation of the foot of the bed, light rubbing of the feet and legs (provided a thrombus does not already exist) and frequent changes in position are of value. Where varices exist the foot and leg may be bandaged up to that point. By carrying out these measures faithfully in all laparotomy and also parturient cases not a case of thrombosis in the lower extremities has occurred in the writer's hospital or private practice in the past three years.

Uterine Myomata and Developmental Irregularity.

W. ROGERS WILLIAMS (*British Med. Jour.*, September 29, 1900) says that two conceptions as to the origin of neoplasms exist, one based on the cell theory, the other on the germ theory. The question briefly stated now is, Do neoplasms arise through a modification of the formative process; or are they the outcome of the inflammatory process, owing to the intrusion of microbes or other irritants *ab extra?* The writer inclines to the former theory, holding that neoplasms arise mainly from the play of forces generated within the body. Recent researches as to the genesis of uterine myomata indicate that in a large proportion of cases their origin is intimately associated with developmental irregularities. Among the grosser uterine malformations with which myomata may be associated are double uterus, double vagina,

atresiac infantile uterus, congenital anteflexion and rudimentary horns of a uterus unicornis. Neumann has described myomata of the uterus and tube concurrent with Wolffian "rests" in both ovaries; and Russell has discovered Müllerian relics in the ovary, whence structures like utricular glands had evolved, that resembled the epithelial inclusions found in uterine myomata. Uterine myomata are often complicated with ovarian cystomata, dermoids and cysts of the adnexa. The frequency with which myomata are multiple would of itself tend to associate developmental irregularity with the origin of these tumors, and the occurrence of cases in which the whole musculature is converted into a mass of small tumors points to the same conclusion. The association of uterine myomata with similar tumors in adjacent structures is very common. Cohnheim's theory of the origin of tumors from sequestrated fragments of germinating tissues has received more and more confirmation from modern research. Before Cohnheim's time Paget said in reference to the proneness of melanomata to arise from pigmented moles: "It seems a striking illustration of the weakness in resisting disease which belongs to parts congenitally abnormal." Bearing in mind the developmental correlation between the uterine musculature and its numerous blood vessels it is easily conceived how by a similar process these adenomyomatous inclusions arise, owing to the migrations and changed relations of the parts incidental to ontogeny. In this manner the germs of myomata originate, and thus may their association with the small arteries be accounted for.

A New Pessary.

HUGHES R. DAVIS (*The Lancet,* October 6, 1900) says that no really satisfactory pessary exists for prolapsus uteri in its worst form, or for anteversion or anteflexion. In cases of prolapsus uteri the cup and stem pessaries, temporarily convenient, are in the end failures. Often an ulcerated os has been caused or aggravated by their use; they mostly retain foul secretions, become vehicles for absorption of septic matter, and are generally uncomfortable. Most of them subject the uterus to violent shock in any undue movement of the body, while the bladder and rectum are often irritated. The pessary devised by the writer is on the principle of a Macintosh, but the stem forks about half the distance up, and to the fork ends is attached by hinges, a pessary made either like a "Hodge" or a ring, as the conditions indicate. The instrument is simple, easily adjusted and practically aseptic. The hinge action—in deviation from about 75° to 90°—simulates and acts

harmoniously with the swing of the broad ligament, thereby lessening the danger of shock from impact on the stem. The hinge action is checked at such an angle that neither the bladder nor rectum can be interfered with. It can be easily modified to suit the individual requirement.

Eighteen Consecutive Cases of Abdominal Hysterectomy; Technique and Results.

A. A. WARDEN (*The Lancet,* October 13, 1900) as senior assistant to Dr. Doyen's private clinic in Paris had the opportunity of studying the operative technique followed by Dr. Doyen in his cases. His method is so simple and the mortality has been so surprisingly small (from 2 to 4 per cent.) that it is strange that it has not been generally adopted. In the cases reported the operation was performed in nine cases for the removal of a large fibroid, in three cases for fibroid with salpingitis, in two cases for cancer, in one for fibroid with dermoid cyst, in one for fibroid and ovarian tumor, in one for a dermoid cyst with salpingitis, and in one for fibrous tumor of the uterus where laparotomy had previously been done for a suppurating ovarian cyst. The advantages of this method are chiefly: (1) the retention of sufficient peritonæum around the opened vagina to admit of complete closure of the peritonæal cavity, thus reducing the risk of infection; the avoidance of the use of clamps, ligatures, and forceps prior to the section of the broad ligaments; (3) the applicability of the operation to the enucleation of all forms of uterine and broad ligament fibroids; (4) the fact that injury to the ureter or bladder is practically impossible; and (5) its simplicity and rapidity, requiring not more than half an hour even in unaccustomed hands.

The patient is placed in the Trendelenburg posture and the abdominal wall incised from the pubes toward the umbilicus, to an extent sufficient to admit of the extraction of the tumor. The peritonæum is caught on either side by forceps and a large compress placed behind the tumor to isolate it and protect the intestines. The fibroid is drawn up and out by a large fibroid screw. Other compresses are introduced at the sides above the pelvic brim for isolation, to keep back the intestines and to protect the peritonæum from contamination. After the cleansing of the vagina, long curved forceps are pushed by an assistant up behind the cervix in the posterior cul-de-sac as high as possible. Douglas' pouch is then incised with scissors, cutting longitudinally upon the point of the forceps, which then pentetrate the peri-

tonæal cavity and are widely opened. The incision is extended a little on either side, the cervix firmly seized and drawn well up, the assistant steadying the tumor with the fibroid screw. The strong lateral attachments of the cervix can be easily felt, and two cuts with the scissors laterally close to the uterine wall free the cervix from the lower part of the broad ligaments, so that it can be drawn further up and out, bringing the anterior vaginal cul-de-sac into view; the cervix is separated from this with the fingers or scissors, strong traction being maintained. The right forefinger then separates the bladder readily, thanks to the loose cellular tissue. The left forefinger is passed above the superior border of the right broad ligament through the vesico-uterine peritonæum and strips off the right broad ligament, which is seized by the assistant. Then by cutting between the uterus and the annexa the tumor is freed on the right. It is then drawn to the left, the anterior peritonæal covering separated, the upper part of the left broad ligament cut, and the uterus and tumor removed. The uterine and utero-ovarian vessels are caught and ligated, and if care has been taken to cut close to the uterine tissue only minor branches of these arteries will have been opened. The right and left appendages are ligatured and removed, and the pelvic cavity sponged out. The right vaginal commissure is picked up with strong forceps and a curved needle successively threads it, the retro-uterine peritonæum, the peritonæum of the tubo-ovarian pedicle, and finally the peritonæum between that pedicle and the bladder. A medium silk ligature passed through the eye of the needle when drawn tight completely closes the peritonæum over the tubo-ovarian stump. The left side is similarly treated and a transverse suture between the two unites the retro-vesical peritonæum to that of Douglas' pouch. Any redundancy of peritonæum or tear should be carefully sutured. The pelvis is sponged out with a dry compress, the table lowered to a horizontal position, the abdomen closed with a deep sero-aponeurotic layer united by interrupted silk sutures or continuous catgut, and a superficial skin suture of either silkworm or catgut. The patient is well purged on the second and sometimes on the first day after the operation. If the temperature rises, chopped ice is placed in bladders and laid over the abdomen. In these two details the after-treatment differs from that usually employed.

OBSTETRICS.

UNITED STATES.

Treatment of Cancer of the Cervix of the Uterus complicated by Pregnancy.

GEORGE BEN JOHNSTON (*Georgia Jour. of Med and Surg.*, October, 1900) says that fortunately conception rarely takes place in the presence of cancer of the cervix, the nature of the disease almost precluding its occurrence. The onset of cancer is usually subsequent to conception and as it is usually more aggressive under these circumstances its management demands special consideration. The precarious condition of the child, which rarely goes to full term, the constant dangers which beset the woman from hæmorrhage and infection, and the danger at labor of lacerations which may extend to the peritonæum and lead to fatal peritonitis, or where the cervical canal is occluded or incapable of dilatation, the danger of rupture of the uterus, all demand careful consideration. The cases may be divided into three groups:

1. *Cases in which the cancer appears before the fourth month of pregnancy and remains limited to the cervix.* At this early stage no thought of saving the life of the child can be entertained and the treatment must be the same as would be accorded to cancer of the non-pregnant uterus, *viz.:* total and immediate hysterectomy; by the vaginal route unless the caliber of the vagina or some other obstacle forbids it.

2. *Cases in which, regardless of the stage of pregnancy, the disease has extended to the vagina and possibly neighboring structures, rendering the condition inoperable.* Here the outlook for the mother is hopeless and the efforts must be entirely in behalf of the child; the endeavor must be made to carry the mother to term or at least to the viable age of the child. The closet surveillance is essential for intervention may be demanded at any moment on account of exhaustion or hæmorrhage, or to forestall premature delivery. If the woman reaches full term Cæsarian section should always be performed as less perilous, for delivery by the natural channel is fraught with formidable dangers.

3. *Cases in which the disease is discovered after the fourth month and remains limited to the cervix.* Here the possibility exists of saving the lives of both mother and child. Frequent examinations must be

made and if it becomes evident that the disease is making such rapid progress that it will become inoperable before the child is viable, the child's life must be sacrificed and complete extirpation of the uterus by the abdominal route should be performed at once. Where, however, it is evident that the mother will not be seriously endangered by a few weeks' delay, operation should be deferred until the seventh month, or later, if possible, when a Cæsarian section, followed by removal of the uterus, should be performed.

Obstetrics in Paris.

N. I. RATCHINSKY (*Obstetrics,* October, 1900) spent some months in Paris for the purpose of investigating the methods of teaching and practicing obstetrics employed in that city. One-quarter of all the births in Paris take place in public institutions, and so great is the solicitude for pregnant women that not only are there maternity hospitals where they receive women in the eighth or ninth month of pregnancy, or much sooner where the pelvis is abnormal, but there are special institutions where a woman will be received early in pregnancy and carefully cared for until the eighth month. She is not compelled to work and if she has little children they can be cared for at the same place; from there she goes to the institution Michelet, where she lives until labor sets in. In addition there is a special asylum for puerperal women, Ledrue Rollin, in which they may live and recuperate for two weeks after leaving the maternity hospital. The same care and supervision is extended to the infants. When the mother is discharged from the hospital the infant gets a card admitting him to the weekly inspection by a physician of the institution, and in case of need entitling him to receive a daily supply of sterilized milk, free of charge, or for a nominal price. The weekly inspection includes a careful examination of each child, the weight is recorded, and each mother receives advice as to the care and feeding of the infant. Every suspicious case is investigated with special care, and if the breast milk is deficient, absent, or poor in quality, proper artificial food is prescribed. Such persistent hygienic care gives good results. Death from diarrhœal diseases almost never occurs among these inspected children and in the Charité, for example, the total mortality among the children under a year is only 7.3 per cent., while the mortality in Paris as a whole for the same age is 21 per cent.

There are difficult and comprehensive examinations to be passed in order to secure positions in these hospitals, and thanks to the im-

partial and conscientious way in which these examinations are conducted, the whole staff are men of ability and reputation.

The study of obstetrics is begun in a theoretical course and is entered upon by students in their fourth year of medical study. This course combines didactic lectures and work upon the phantom and cadaver. Before admission to clinical work the student must pass a most rigid examination. After three months of clinical work in the maternity hospitals another examination, both clinical and theoretical, has to be passed. Midwives are required to pass two continuous years of study and work in one of the institutions in order to receive a license.

In the clinics Tarnier's forceps are exclusively used, not only as an instrument for traction, but as a means for rectifying the position of the vertex. Farabeuf's lever, devised in 1894, is recommended by him for use when the head is high at the brim and in cases of symphysiotomy. The diameters of the fœtal head can be measured by this lever with accuracy. Its value has not been thoroughly demonstrated, but it is being tried at various clinics. Much importance is attached by French obstetricians in breech presentations to the precise moment when the aftercoming head enters that part of the pelvis which corresponds to the occiput, in order to make the head pass the narrow part of the pelvis with the smallest transverse diameter. Introducing the finger into the mouth of the child, the head is pushed into one-half of the pelvis in such a manner that the fronto-parietal suture lies opposite the promontory. An assistant presses from without upon the frontal region of the head and thus helps the descent.

In Pinard's clinic a 5 per cent. solution of citric acid is dropped into the eyes of newborn infants as a prophylactic against ophthalmia. Sometimes the juice of a lemon is squeezed directly into the infant's eyes.

Post-partum endometritis is treated at Pinard's clinic as follows: The uterus is first irrigated with biniodide mercuric solution and the cavity dried with iodoform gauze. A strip of similar gauze is wound around a Richelot's bent forceps, dipped into tincture of iodine, and with it the uterus is mopped out, then again irrigated with the biniodide solution, dried and tamponed with iodoform gauze for twelve hours. The antistreptococcic and antistaphylococcic serums are extensively used in puerperal affections, and are even given, as a prophylactic, to every woman who enters the maternity with ruptured membranes, if she has been examined outside per vaginam. The doses given are smaller than those used in German hospitals.

Difficult Labor caused by Dropsy of the Child.

CARL WEIDNER (*Ibid.*) reports the case of a woman who, during the latter part of her eighth pregnancy, was troubled with extreme distension of the abdomen and moderate swelling of the lower limbs. The urine was normal and labor, at full term, went on without difficulty until the head was low in the pelvis, when all progress stopped, although the pains continued. The head was finally brought down with forceps and there progress was arrested; finally the writer succeeded in grasping one shoulder and bringing it down, and then with great difficulty the other shoulder was delivered; finally with forcible traction the rest of the child was delivered and the cause of the trouble explained. The child's abdomen was distended and the abdominal wall œdematous, the umbilical cord measured an inch in diameter, and the lower limbs were swollen. The circumference of the abdomen was twenty-four inches. The child was born dead, but had evidently lived up to within a few hours of delivery; the placenta was very large and soft. There was an enormous amount of amniotic fluid. In spite of the large child the perinæum of the mother was not lacerated. No autopsy could be obtained on the infant. There was probably some obstruction in the funic or placental circulation.

Medullary Narcosis during Labor.

S. MARX (*Medical Record,* October 6, 1900), since presenting his preliminary report, has used this method of anæsthesia in thirty cases of labor, and has never, as yet, seen any symptom which would suggest danger either immediate or remote. Convalescence has been ideal in all cases. For an easy, successful puncture the best position is a sitting one, with the body well inclined forward, so that the elbows rest upon the knees. A *sine qua non* to an absolute analgesia is the escape of subarachnoid fluid before the cocaine is injected. If at the end of fifteen minutes analgesia is not obtained the injection may be repeated; it may also be repeated if sensation returns too soon. The cocaine solution should be freshly prepared, as it becomes inert from frequent sterilization. Eucaine has proved valueless, and Schleich's infiltration tablets have been found of little use. An attempt was made to combine $^1/_6$ gr. morphine with the cocaine to offset the unpleasant effects of the injection, but the results were far from satisfactory, dangerous symptoms of morphine poisoning showing themselves. Good results have been obtained more recently by injecting by the ordinary hypo-

dermic method, either as soon as the cocaine is administered, or at the first appearance of nausea and vomiting, $^1/_{200}$ gr. of hydrobromate of hyoscine. The two possible dangers in this method are: (1) collapse from cocaine, (2) sepsis from the puncture. As much as ¾ of a grain has been used in one hour without untoward symptoms, but some special idiocyncrasy might cause trouble. Absolute asepsis must be practiced. It is of importance to preserve quietness in the room, as the senses of sight and hearing seem unusually acute. It may be well in nervous patients to bandage the eyes and plug the ears with cotton.

Rupture of the Symphysis Pubis during Parturition, with Report of Case.

G. A. HIMMELSBACH (*Phila. Med. Jour.*, October 13, 1900) says that while rupture of the pelvic articulation is not new, yet it is comparatively rare. The case reported was a primipara of 25 who was taken with pains about 10 in the morning. The head presented in the first position, and although no accurate measurements were taken the bony pelvis seemed ample. The vulval outlet seemed small, and the soft parts were somewhat unyielding. The child was born at 3.20 P.M. The uterus contracted well. A slight median laceration was repaired. The patient was comfortable except for muscular soreness. The next morning the nurse said that the patient had difficulty in turning in bed, but no special importance was attached to it. The following day the patient said that the soreness was localized in two areas, one in the pubic region, the other in the right hip posteriorly, and stated that a loud snap was heard every time that she attempted to turn on her side. The snap was audible at a distance of several feet, and the patient complained of accompanying pain. Examination showed a separation of the two bones of the symphysis, one pelvic bone gliding up and down over the surface of the other. There was also a swelling and ecchymosis over the right sacro-synchondrosis, but no motion. A strong, broad bandage extending from below the breasts to one-third way down the thighs was applied, and the patient was kept quiet on her back for twenty-four days. There was no disturbance of the bladder function. When standing for a moment was first permitted the pain was distressing, and two months elapsed before she could walk. Five months after the confinement she walked well and evenly, but had some pains at times.

Parvin thinks that this accident is preceded by a physiological softening of the articular surfaces, causing relaxation of the joint. Osteo-

malacia might also be a predisposing cause, but the accident is rare in rachitic pelves. In many cases the lesion has been ascribed to undue size and solidity of the fœtal head, to unfavorable presentations and to the use of forceps. There is no anatomic reason why one sacro-iliac symphysis should be more susceptible to rupture than the other, but statistics show that the accident usually involves the pelvic symphysis first and next the right sacro-iliac. It is a probable that a certain degree of relaxation of the symphysis occurs in many pregnant women, the ligaments lose their resilient qualities, the synovia is increased and presses the bones asunder, the pelvis becomes incapable of sustaining the body and gradually yields to the weight above, or some slight movement precipitates the rupture.

Pregnancy Subsequent to Ventral Suspension of the Uterus.

J. C. RUTHERFORD (*Ibid.*) reports the case of a second labor occurring in a woman on whom ventral suspension of the uterus had been performed. The presentation was occipito-posterior and rotation of the occiput to the pubes did not take place, yet she was delivered, unassisted, of a large living child. Six months later the uterus was found to be in the normal anteverted condition, and the ligament attaching the uterus to the abdominal wall was, as nearly as could be made out by bimanual examination, about 1½ inches long.

Some of the Diseases affecting the Female Breasts following Confinement, and Treatment.

WM. B. MURPHY (*Northwestern Lancet*, October 15, 1900) calls attention first to short or retracted nipples, which are more frequent in primiparæ than in multiparæ, and may be congenital in either case; but usually in the latter it is the result of cicatricial contractions from badly ulcerated nipples, inflammations, burns, and neoplasms. The treatment consists in massage and traction of the nipples during pregnancy, after the sixth month. Dry cupping, test tubes being used, is often of service. Inflammation of the nipples usually occurs during the early part of lactation, especially in poorly nourished mothers, in whom the nipples are not fully developed. The act of suckling macerates and loosens the epidermis, which separating leaves a raw surface. This may deepen into a fissure or ulcerate, thus opening an avenue of infection for mastitis and abscess. He divides sore nipples into:

1. Swollen and œdematous.

2. Complete erosion of the top.
3. Fissures radiating in any direction.
4. Fissures at the base.
5. Small ulceration on some of the papillæ.
6. Ulcerations in the areola.

The treatment of the first condition is thorough cleansing with soap and water, followed by compresses of antiseptics, as boric acid or lysol, drying and dusting with boric acid, lengthening the period of nursing to give the nipples rest. For the other conditions careful cleansing as before, puncture of cysts or small pus sacs, washing with peroxide of hydrogen, then paint the fissures with a solution of nitrate of silver, 20 grs. to the fluid ounce of water, dry and cover with a sterile cotton pad. A glass nipple shield should be used for nursing, which should be boiled before using. Acute mammitis usually occurs during the first week of lactation, though it may occur at any time. For this he advises either ice or hot applications, saline purges, gentle massage of the breasts, and the support of the breasts by a bandage or compression by the same means. If an abscess forms, prompt opening of the same under antiseptic methods, care being observed to make the incision in the direction of the ducts, *viz.:* from the nipple to the periphery, with careful washing out of the abscess sac.

The Management of Normal Labor, including the Use of Forceps.

AUSTIN FLINT, JR. (*New York Med. Jour.*, October 27, 1900) says that it is not enough to conduct a case so that the mother and child "live," but the child should be strong and healthy, and the mother should regain perfect health. To do this requires serious study and skill even in the management of so-called normal cases. One rule, not always recognized, is to do everything to limit the suffering to the smallest degree consistent with the safety of mother and child. A careful physical examination should always be made at the end of the eighth month; presentation and position can then be ascertained, all danger of infection and fever is avoided, and any abnormalities requiring the induction of premature labor can thus be diagnosed in time. This simplifies the examination during the first stage of labor. At the time of labor sterilization of the external genitals, the thighs and the lower part of the abdomen is sufficient. After the attendant's hands are sterilized one careful examination may be made, and if conditions are normal, no further interference is needed until toward the end of the first stage. The patient should then be placed in bed

and in the majority of cases an anæsthetic may be administered in small quantities during each pain. Ether is preferable to chloroform. The membranes should be preserved intact if possible until the cervix is fully dilated, and manual assistance may be rendered if the dilatation is very slow at the latter part of the first stage. An anæsthetic throughout the second stage is of benefit not only in relieving suffering, but as an aid in securing the dilatation of the vulva before allowing the head to pass. The low forceps operation should be performed more frequently than it is; it is simple, devoid of danger, saves unnecessary suffering, and often aids materially in preserving the perineal floor. Median operations, within the cervical canal, and high operations should be performed only for some decided indication. As the interval between the second and third stage or the third stage itself is the time when infection is most apt to occur, especial care should be taken. The hands should be resterilized before the placenta is delivered. If the cord has been tied in two places, cut off the placental end behind the ligature to allow the escape of the few ounces of blood in the placenta in order to reduce its bulk. After the delivery of the placenta, a hot sterile douche stimulates the uterine contractions, cleanses the vagina of all clots, and allows a thorough inspection of the vulva, perineum, and vagina. Any lacerations should be immediately repaired.

Should added experience show freedom from complications in the new method of spinal anæsthesia, the obstetrician will have at his command an almost ideal method.

The Diagnosis of Ectopic Pregnancy before Rupture, based on Eleven Cases.

J. F. BALDWIN (*International Jour. of Surg.*, November, 1900) says that the real working knowledge of extra-uterine pregnancy dates back only about twenty-five years, and as late as 1889 Lawson Tait, who was then regarded as authority on this subject, wrote: "No authentic description exists of an unruptured tube-pregnancy;" and again, "I defy anybody to have diagnosed such a case beforehand, for the woman had not even missed a period." But with the increase of literature and knowledge on this subject, it is now possible, in a fairly large proportion of cases to make a diagnosis of tubal pregnancy before the occurrence of rupture. It is true there are cases in which no symptoms occur to send the woman to her physician for advice or examination until the sudden occurrence of the alarming symp-

toms due to rupture and hæmorrhage; but such cases are the exception. While there are no absolutely pathognomonic symptoms of tubal pregnancy, or of any other form of ectopic pregnancy, we usually find the following points: Sometimes there is a history of several years of sterility; the patient has missed a menstrual period, possibly two (numerous exceptions); there have been pains, usually in the region of an ovary, of a boring, griping or colicky character; sometimes shreds of membrane have been discharged, together with more or less irregular hæmorrhage.

In favorable cases vaginal examination will show on one side or the other of the uterus, or back of it, a fusiform cystic tumor about the size of a hen's egg, tender on pressure and usually distinctly pulsating. The uterus will be found slightly enlarged. An enlarged and adherent ovary in Douglas' cul-de-sac, an old pyosalpinx, a hydrosalpinx, a small cyst of the broad ligament, or an enlarged ovary in its normal position might be mistaken for an unruptured tubal pregnancy, but these conditions are not, as a rule, accompanied by the other symptoms of tubal gestation. But all these conditions justify operative interference and if the operator find a pus tube or a cystic ovary in place of a tubal pregnancy, the operation will be of benefit to the patient, while if a tubal pregnancy really exists he has saved the patient from the gravest of dangers.

Eleven cases have been operated upon by the writer for suspected tubal pregnancy, in each of which the diagnosis was found to be correct and the enlarged tube, with its contents, removed, with the result of perfect recovery on the part of the patient.

Obstetrics viewed from a Gynæcological Standpoint.

CHARLES E. CONGDON (*Buffalo Med. Jour.*, November, 1900) says that inasmuch as one-half of the gynæcological operations are done for the restoration of injuries, or for the cure of the results of infection following parturition, the question as to the reason of this state of affairs naturally arises. The fault does not lie in the physician in most cases. Very few households will permit the practice of well-organized and disciplined maternity work. To the ignorance, superstition, stupidity and carelessness of the laity the vast majority of the accidents of labor are due. If physicians would unite in an effort to teach patients that they should be carefully watched from the time of conception until involution is complete; that the discomforts of pregnancy may be relieved; that frequent urinary analysis is neces-

sary; that their beds must not be covered with old quilts, carpets, or soiled linen; that the bowels should be thoroughly cleared by an enema before the second stage; that the vulva should be shaved, scrubbed, and covered with sterile gauze; that irrigation is harmful; that self-examination is absolutely interdicted; that the physician is the better judge of the competency of the nurse; that the patient should remain in bed until involution has taken place, be the time longer or shorter; and that the patient should submit to a careful examination within two months after confinement, and to the repair of any injuries found, there would be much less for the gynæcologist to do, and women would be spared much suffering and invalidism.

Great Britain.

Cephalotripsy for the After-coming Head.

J. H. Targett (*British Med. Jour.*, September 15, 1900) says that there are three points to be considered: (1) What is the best site for perforation of the after-coming head? (2) When crushing is necessary, how should the cephalotribe be applied? (3) Is version before craniotomy advantageous? The sites recommended for perforation of the after-coming head are the roof of the mouth, the region behind the ear, and the sub-occipital space. Where the head is retained above the brim of a contracted pelvis, and the os is imperfectly dilated, perforation through the mouth is almost impossible, while perforation through the suboccipital space is apt to open only a portion of the cranial cavity, and exit of the brain is impeded. The opening behind the ear is better, but the perforation must be above the root of the mastoid process, and in cases of great contraction this is sometimes difficult to reach.

The best method of applying the cephalotribe is to pass one blade into the aperture made by the perforator while the other is adapted to the exterior of the head in the usual manner. The best grip is obtained by passing one blade into a sub-occipital opening, and applying the other over the face. When the pelvis is flattened it is best to have the long axis of the head engaging the transverse diameter of the brim with the occiput uppermost. Thus the head is seized by its base in the chief antero-posterior diameter, the most rigid part of the skull is crushed or strongly flexed on the spine, and a firm grip is secured with no danger of slipping. Text-books generally recommend preliminary podalic version, extraction of the trunk and perforation through the

mouth, with crushing and extraction of the head with the cephalotribe. The converse, viz., version after cephalotripsy is rarely adopted. In a case to which the writer was recently called, perforation and cephalotripsy had already been performed, but the head was high up in the pelvic cavity and the trunk would not enter the brim. Internal version was not difficult, but the extraction of the breech and the trunk was very difficult. The final stage of delivery was very easy, the extended arms by the side of the crushed head being less in bulk than the trunk and so easily extracted in that position.

Pilocarpin in Puerperal Eclampsia.

WILLIAM COLLIER (*British Med. Journal,* September 22, 1900) says that the danger incurred by the use of this drug when the patient is in an unconscious condition seems to be often entirely overlooked by its advocates. Pilocarpin not only causes profuse perspiration and salivation, but also an enormous increase in the mucus in the bronchial tubes, and the unconscious patient runs a risk of being suffocated by her own secretions. In one case in the writer's experience the patient was saved from suffocation only by long continued artificial respiration. Since that time two other cases have been reported to him where eclamptic patients had their lives seriously jeopardized by the use of this drug while they were unconscious.

Undue Adhesion of the Membranes as a Complication of the Third Stage of Labor.

D. BERRY HART (*The Scottish Med. and Surg. Jour.,* October 1900) discusses (1) The normal relations of the membranes and the mechanism of their normal separation during labor. (2) The causes of undue adhesion. (3) The varieties. (4) The diagnosis. (5) The treatment.

(1) The membranes line about four-fifths of the internal area of the uterus, the amnion and chorion forming the fœtal membranes, and the decidua vera the maternal one. The amnion does not cover the cord. The part lining the lower uterine segment may be termed the prævial membranes. The decidua vera has in it, near the uterine wall, little spaces forming the spongy layer of the membranes, continuous with the spongy layer in the placenta. During the first stage of labor the lower uterine segment expands greatly, and the expansion not being participated in by the membranes, they become separated up to the

retraction ring. The remainder of the membranes separate during the third stage and strip off as the placenta is expelled. (2) Undue adhesion occurs in women who have had endometritis before conception, or have had a previous labor with some endometric complication, or in cases where the spongy layer is imperfectly developed.

(3 and 4). The prævial membranes may be adherent and hinder the canalization of the lower uterine segment. This condition is rare. The third stage adhesions may be: (*a*) Partial and in the lower uterine segment. This causes delay in the expulsion of the placenta, and if the finger be passed it will be found that the membranes are fastened above, the attached part passing through the retraction ring; sometimes the membranes are torn off at the placental edge when there is a retained clot behind the placenta. (*b*) Entire adhesion of the membranes throughout. There is undue hæmorrhage during the third stage, and when the placenta separates it does not descend, or if it passes to the vulva gentle pressure will not cause it to pass out.

(5) The dangers of adherent membranes are hæmorrhage during the third stage and sepsis during the puerperium. If the membranes are totally adherent the best way is to introduce the finger and separate as in adherent placenta. If the placenta has come away, leaving the membranes, the separation is a little more difficult. When the membranes are adherent in the lower uterine segment, then, with the patient on her back, press down the uterus with one hand on the abdomen, and passing the other hand up to the uterine cavity, strip off the membranes. The hands and genitals should be rendered aseptic before these procedures and an intra-uterine douche given afterwards. The importance of removing every shred of membrane is strongly emphasized.

Cæsarean Section in a Primipara on Account of a Fibroid Tumor.

Lloyd Roberts (*The Lancet,* October 6, 1900) reports the case of a patient who was admitted to the hospital in labor; pulse and temperature were normal; the fœtal heart could be distinctly heard, and the abdomen had the normal appearance of a pregnancy at term. The cervix could just be reached very high up in front, while the posterior fornix was filled with a hard, immovable mass so blocking the pelvic cavity that the conjugate diameter was reduced to one and a half inches, rendering even cephalotripsy impracticable. The abdominal wall was opened by an incision extending from the umbilicus to the pubes. The uterus was not drawn through the abdominal

wound at first, but was opened and a living child extracted by the leg. The placenta, all clots and shreds of membrane were removed, then the uterus was lifted out; this procedure allows of easier manual compression and thus prevents hæmorrhage; it also facilitates accurate suturing of the uterine wall and a thorough cleansing of the abdominal and pelvic cavities. The pelvic tumor was found to be a fibroid growing from the posterior wall of the uterus, and so firmly adherent to the rectum and the sigmoid flexure as to preclude removal. Quite a free hæmorrhage was caused by the investigation of its attachments, but it was controlled by sutures. On the fourth day the patient's temperature rose, the abdomen became distended and the lochia was fœtid; three days later antistreptococcic serum was injected, followed by marked improvement. Another rise in temperature two days later was followed by the administration of more of the serum, and from that time on the improvement was steady but slow, the temperature not remaining thoroughly normal throughout the twenty-four hours until six weeks after the operation.

PÆDIATRICS.

United States.

Medical Treatment during the Adolescent Period.

Edwin Rosenthal (*The Med. Fortnightly,* October 25, 1900) says that the adolescent period in females is as critical as the menopause, but, as a rule, recourse has been made to all old and popular remedies on the advice of women friends, before a case is brought to a physician. Aside from painful menstruation, which is not considered in this paper, the cases are usual in one of two classes: (1) Those who have never menstruated, and (2) those in whom the menstrual discharge has been so scanty and at such irregular and infrequent intervals that it has never been really normal in character. The symptoms are about the same in all cases; digestive disorders, headaches, languor, flushing, sensations of fullness in the abdomen, disturbed sleep, sleepy condition during the day time, cutaneous affections, especially acne. Not all of these symptoms may be present in any one case. At intervals corresponding to the menstrual period these conditions are usually aggravated. The cause must be as-

certained in order to treat the case successfully. Where menstruation has never appeared it is a good rule to have the patient examined by the mother if she is even fairly intelligent. Imperforate hymen will readily be recognized. Where this condition does not exist, it is necessary to have a physician make an examination, preferably under an anæsthetic. Where the trouble is an imperforate hymen or an impervious cervix, appropriate surgical treatment will relieve it. Where there is congenital absence of the uterus and ovaries regulation of the bowels and some mild sedatives at the periods of disturbance will afford some relief. Where no anatomical reasons exist anæmia is the most common cause; tuberculosis may also interfere with menstruation. It is universally conceded that some preparation of iron is the most efficient remedy combined with some laxative to keep the bowels regular. The writer's experience with the different preparations of iron has convinced him that the pepto-manganate is the best; it should always be given in milk and any of the preparations that make a clean, uncoagulated and palatable mixture with the milk may be used. Where the uterus and ovaries are infantile in character electricity may be used in conjunction with the above treatment, and one case improved under the use of a stem-pessary for nine months. Exercise in the open air, avoidance of late hours and over-study will aid the medication.

Bathing Babies.

J. FRED CLARKE (*Phila. Med. Jour.*, October 27, 1900) believes that in the art of bathing babies lies one great factor of their well-being. From the age of two weeks to two years the baby should receive a cool bath with massage in the following manner: The mother or nurse should take the child on her lap in a warm room with a bowl of tepid water within reach, then uncovering only one part (a limb or the chest or back) at a time, thoroughly wet the child's skin with the hand which has been dipped in the water, rub vigorously with the hand until it is nearly dry, then finish with a Turkish towel. The time required is from one half to one hour. The babies rarely cry and fall into a refreshing sleep after the bath. Once a week hot water and soap is used, but no soap is used at the daily bath. The effect of the cool bath and massage is not only to keep the skin in a most healthy condition, but to render the muscles firm and well developed. In feeble children a marked improvement follows in a short time, and the method has the advantage of never causing shock nor chilling the child by exposing the whole surface of the body at once, each part being wrapped in a warm blanket as soon as the massage and drying are completed.

Papillomata of Larynx in Children.

EDWARD T. DICKERMAN (*Jour. Amer. Med. As.*, Oct. 27, 1900) says that fortunately pathologic growths are not of frequent occurrence in the larynx of the child, but papillomata are the most common neoplasms. Rosenberg found sixteen cases out of 5,808 children examined, Schrötter found about one in 700, and the writer has seen five cases out of about 6,000 children. Papilloma of the larynx may be congenital, although this is rare. It may develop after an attack of one of the acute exanthemata; in one case it seemed to have been caused by acute laryngitis. Lennox Brown thinks that adenoids and enlarged tonsils may act as etiologic factors, but in none of the writer's cases were they present. When occurring early in child life the growth is generally multiple, cauliflower like or lobulated, pale gray-white in appearance, and springs from the true and false cords, although the whole laryngeal surface may be involved. In later years of childhood it may be single or lobulated, making its appearance in the anterior half of the larynx on the true cords. The clinical picture is characteristic: the voice rough and hoarse or lost, cough harsh and annoying, distressing inspiration, dyspnœa, with retracted chest walls and shallow breathing. Laryngeal spasm sometimes occurs and mucous expectoration is generally present. Frequent examinations of the sputa will disclose particles of the growth which have become detached and are expectorated. The treatment may be divided into two forms: 1. Where the dyspnœa is not marked, rest in bed, *absolute rest* of the larynx and a general tonic. A five per cent. solution of salicylic acid in alcohol, with the addition of three per cent. of resorcin has proved of benefit as a local application. 2. Operative treatment. This may consist of laryngotomy, tracheotomy with or without intralaryngeal procedures, and intra laryngeal operations alone.

In a number of cases spontaneous cure occurs. When dyspnœa is pronounced tracheotomy should be performed at once and then intralaryngeal treatment should be tried. Krouse's small pincet forceps and the snare for the removal of the growths, a little at a time at repeated sittings, has given good results, each operation being followed by the application of the salicylic-acid solution mentioned above. The patient should wear the tracheotomy tube for six months after the growth has disappeared. Thyrotomy should be considered only as a last resort.

Gastro-intestinal Hæmorrhage in the New-born.

EDWARD N. SMALL (*Ibid.*) reports the case of a female infant born at term and apparently in perfect health. Thirty-one hours after

birth she vomited and passed by rectum material that looked like meconium mixed with blood. At intervals of two hours she had two more hæmorrhages from the rectum and again in four hours. These were of almost pure blood, very profuse, leaving the child practically bloodless, shriveled, and with an imperceptible pulse. Albumin water and brandy was given by mouth, $^1/_{150}$ of morphia and $^1/_{5000}$ of atropia were given hypodermically, the child was wrapped in cotton and hot-water bottles placed to the extremities. After six hours she passed a few dark clots; the temperature was 104° and the child was restless. One minim of aseptic ergot was given hypodermically and the albumin-water and brandy continued. The child rallied, the temperature dropping to 99° and the pulse becoming perceptible. The next day she slept some, passed a normal stool, and took nourishment better. In one month she had regained her lost flesh and strength, and is now doing well. The umbilical cord did not separate until the eighteenth day. The only causes assignable in this case were asphyxia and tardy establishment of the respiratory and circulatory functions after a tedious labor. Many other causes have been given: sepsis, hereditary syphilis, tuberculosis, infectious diseases, hæmophilia, enlargement of liver and spleen, ulcers in the intestines, worms, congenital heart-disease, and too speedy ligature of the cord.

The fact that so many more cases occur in institutions than in private practice would point to an infectious nature but not sepsis, and this is confirmed by the definite course of the disease, soon ending in death or complete recovery, by the elevated temperature, and the bacteriological findings. Hæmophilia is entirely different, the hæmorrhagic tendency continuing, while circumcision has been done within a few days after recovery from gastro-intestinal hæmorrhage without undue bleeding. Holt mentions a class of cases in which the hæmorrhages are spontaneous in origin, having no connection with delivery, and appearing from almost any mucous surface or into any organ of the body. These probably arise from the fragile condition of the blood-vessels, or changes in the blood itself. Jacobi says the round perforating ulcer is more frequently met with in the newly-born than in older children.

The mortality is more than fifty per cent. The prognosis depends upon the strength of the child, its ability to take nourishment and the amount of blood lost.

Townsend advises warmth, perfect quiet, alcoholic stimulants even in the stage of bleeding, and careful, persistent feeding. Holt thinks the administration of drugs internally for the control of hæmorrhage

entirely useless. Others recommend cold drinks, ice, ergotin, gallic acid, and perchloride of iron. In collapse inhalations of oxygen, counter-irritation, and hypodermoclysis with normal salt solution are of use. A recent mode of treatment was the use of a solution of gelatin by mouth and by rectum with a favorable result in one case. The writer looked upon his case as somewhat akin to the hæmorrhage of typhoid and used morphine hypodermically with the good result recorded.

Unusual Case of Malignant Disease in Early Infant Life.

H. J. CLARK (*British Med. Jour.*, October 20, 1900) reports the case of a male infant who presented no abnormality at birth, but at the age of ten weeks showed some enlargement of the left testicle, wholly unassociated with any accident. The enlargement steadily increased until at the end of eight months it had attained the size of a hen's egg. It was smooth and firm to the touch and there was no implication of the surrounding glands. When the child was eleven months old the testicle was removed in the usual way and weighed 1 oz. 13 gr. Microscopical examination showed groups of tubules with columnar-celled lining, while other spaces were filled with mucoid substance. It was evidently a columnar-celled carcinoma, an exceedingly rare form in infants, except in congenital renal tumors. Neither parent presented any suspicion of malignant history.

The Treatment of the Paroxysmal Stage of Whooping-Cough.

JOHN EDWARD GODSON (*The British Med. Jour.*, November 3, 1900) says that the method of treatment which he has found most satisfactory is as follows: Commence at once with the continuous inhalation of creosote. The simplest and best method is to sprinkle the drug on a cloth, hanging the cloth in the nursery or sick-room to dry; in this way a highly-impregnated air can be constantly supplied to the patient, and in every case the relief from the paroxysms has been so marked and immediate that the disagreeable smell of the drug has been willingly borne. The inhalation appears to be free from danger except where the chest is full of moist sounds, when the effect should be closely watched. The lungs should be cleared of bronchitis as much as possible before using internal antispasmodics; in broncho-pneumonia, however, belladonna appears at once to do good. When the chest is fairly clear and the circulation good, suitable doses of antipyrin combined with expectorants may be given. The average duration of cases in which this method was employed was 19.8 days.

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